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ABSTRACT

This manual is written to help day care directors, physicians, and others concerned with the health of children in day care to plan and carry out a group of services that will meet the health needs of children and their parents. It is divided into three parts. Part One is primarily concerned with Planners and Project Directors, and includes administrative considerations. Part Two is primarily concerned with Participating Physicians, and includes technical medical considerations. Part Three is concerned with Dental Care. (Author/CK)

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6 health services

a guide for project directors and health personnel

A. FREDERICK NORTH, Jr., M.D.

PS 005404

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The Day Care Resources Project was conceived by Dr. Edward Zigler, Mr. Jule Sugarman and the Project Director. The Project included planning, preparing and publishing a series of handbooks on day care: Infancy, Preschool, School Age, Training, Health and Parent Involvement; the modification of twenty prominent child development resource materials for use in day care; and writing ten resource papers on day care.

As Director of the Office of Child Development, Dr. Zigler provided the Project with the resources and flexibility to accomplish a series of complex, difficult tasks in a brief period of time. His understanding and support throughout all stages of the various activities were appreciated by everyone and are acknowledged here with thanks.

This handbook on Health Services has gone through two stages of development. First, Dr. Frederick North wrote the handbook under the general direction of the Child Development/Day Care Resources Project. Second, a distinguished panel of reviewers critiqued the original draft in order to provide Dr. North with helpful feedback. The following individuals were very helpful with their constructive criticisms: Dr. Elsie M. Tytla, Health Services and Mental Health Administration; Dr. Alice Chenoweth, Maternal and Child Health Services; Dr. William Forsythe and Dr. Talcot Bates, American Academy of Pediatrics; and Dr. Gertrude T. Hunter, Office of Child Development.

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Project Director

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Foreword

I believe that we have embarked upon an exciting new venture in formulating a public policy for the development of our Nation's children. The materials presented in this volume are one result of this venture.

In order to benefit from the experience of those outside of government, the Office of Child Development, in cooperation with the Office of Economic Opportunity, funded a Child Development/Day Care Resources Project. This Project enabled a broad-based and representative group of non-governmental child development experts, practitioners, and parents to bring fresh perspectives to the questions of methods and goals for the Nation's day care efforts.

The Project included planning, preparing and publishing a series of handbooks on day care practices appropriate for infants, preschool and school age children. In addition, twenty child development and educational resource materials were modified for use in day care, and ten resource papers on day care were prepared.

Under the direction of Dr. Ronald Parker, more than 200 individuals were involved in this national effort. Many of the issues they addressed are complex and controversial, and I should emphasize that the following material represents a **consensus** of the contributors' views.

I believe that the ideas and suggestions contained in this and the other handbooks in the series will be of invaluable assistance to those wishing to provide the best possible care for the Nation's children. They do not attempt to provide all the answers or to lay down a set of inflexible rules, however, I regard them as excellent statements of our current knowledge about developmental day care.

It is the responsibility of the Office of Child Development to make such knowledge available to all who can use it. Our goal is to raise the quality of children's lives. The publication of this series is one step on the way to achieving this goal.

Edward Zigler

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INTRODUCTION

This manual is written to help day care directors, physicians and others concerned with the health of children in day care to plan and carry out a group of services that will meet the health needs of children and their parents.

It contains suggestions rather than formulas.

Alternative means of meeting the objectives may be more appropriate to an individual community than the method suggested in this booklet. The improved health and functioning of individual children is paramount, not any particular method or pattern of organization.

Part One will be primarily concerned with **Planners and Project Directors,** and include administrative considerations.

Part Two will be primarily concerned with **Participating Physicians,** and includes technical medical considerations.

HEALTH GOALS FOR CHILDREN IN DAY CARE

I. **To improve a child's present function by:**
  A. Finding all existing health problems through:
    (i) Accumulating records of past health and immunization status;
    (ii) Considering the observations of classroom teachers and other staff;
    (iii) Performing screening tests; including tuberculin, hematocrit or hemoglobin, vision testing, hearing testing;
    (iv) Interviewing the child and his parents about his current and past health and function;
    (v) Performing a physcial examination as part of a complete health evaluation.
  B. Remedying any existing problems through:
    (i) Applying whatever medical or dental treatments are necessary;
    (ii) Arranging for rehabilitative services, special education, and other forms of continuing care.
    (iii) Applying mental health principles in the classroom or group.

II. **To ensure a child's future health by:**
  A. Providing preventive services including:
    (i) Immunization against infectious diseases;
    (ii) Fluoride treatment to prevent tooth decay;
    (iii) Health education for children and parents;
    (iv) Introducing the child to a physician and dentist who will be responsible for his continuing health care.
    (v) Assuring that the day care setting and the home provide a safe and stimulating environment.
  B. Improving the health of all members of the child's family through:
    (i) Calling attention to family health needs;
    (ii) Introducing the family to health care services, and to sources of funds for these services.
  C. Improving the health of the community in which the child lives through:
    (i) Increasing the awareness and concern of professionals and the general population with the health problems of children;
    (ii) Stimulating and providing new resources for health care;
    (iii) Making existing health resources more responsive to the special needs of children and parents.

part one
ADMINISTRATIVE CONSIDERATIONS

I. The Health Services Director

A single individual should be responsible for planning and carrying out the health program. This person may be a physician — a pediatrician, a public health physician, or a general practitioner with special interest in and concern for children's health. The medical director may be a nurse with experience in public health or school nursing, or a specially trained health administrator.

The health services director may volunteer his services or may be paid as a full or part time employee or consultant to the program. One of his most important duties is to ensure that treatment is successfully completed for all children with discovered health defects.

In many projects, the health director will delegate the dental health program to a dentist, who will act as dental health director.

II. Planning

In order to achieve the comprehensive goals of day care, the health program must be planned by professionally competent people who are dedicated to bringing high quality health services to all children. Planning must take place well before the program begins and should involve as wide a cross section of professional health talent as is available in the community or the region.

People from the following professions and their official local, regional or state professional organizations should be involved in planning the health program for a day care program.

A. Pediatricians and pediatric societies

B. General practitioners and the Academy of General Practice

C. Other physicians and the county and state medical societies

D. Local, regional and state health officers

E. Child and general psychiatrists and their associations

F. Hospital administrators and their associations

G. Dentists and dental associations

H. Public health nurses, school nurses and nursing organizations

I. Optometrists and their associations

J. Psychologists and their associations

K. Medical technologists and their associations

L. Speech and hearing personnel and their associations

Such an extensive group can probably not be assembled to plan health services for a single small day care center. Smaller centers should choose a director who has access to all these groups, or, preferably, plan health services in conjunction with other providers of child development services such as other day care centers, Head Start, nursery schools, etc.

Involving these people and their organizations in planning will ensure that the health program is tailored to the needs of the children, and that it utilizes fully the resources available in the community without duplicating already existing services. Organizations and individuals who are involved in the early planning of a program are likely to cooperate fully in the implementation of the program. Those who are not involved early may be suspicious of the program, unaware of its objectives, and less enthusiastic in cooperation.

In addition to health professionals, parents of the children should be included in the planning group. They often know a great deal about the health facilities of the community, and can give excellent advice as to the suitability, practicality and acceptability of any plan for a health program.

III. Utilization of Existing Community Funds and Services

The health program for children in day care should coordinate and supplement existing resources for the health care of children; it should not duplicate them. When existing service programs do not meet high standards — because of inaccessibility, unacceptability, or poor professional quality — every effort should be used to supplement the existing services and bring them to high standards. Only if existing services cannot be modified should new services be arranged or purchased.

Every community will have available many

Table I — COMMUNITY SOURCES OF FUNDS AND SERVICES FOR HEALTH CARE:

1. Private practitioners of medicine, dentistry, optometry, psychology—individual or group.	1. May provide all types of health services (consultation and planning, administrative, examinations and screening tests, treatment, immunizations, health education and continuing health supervision) on a volunteer, contract, or fee for service basis.
2. Health departments — city, county, regional and state.	2. May provide all types of health services. Some may be free for all children or for certain children as part of existing programs, some may be purchasable. Health departments may provide funds to purchase services from other sources.
3. School health programs.	3. Same possibilities as health departments.
4. Clinics — run by hospitals, medical schools or other agencies.	4. May provide all types of health services, usually on contract or fee for service, but some services may be free for all or some children.
5. Prepaid medical groups.	5. May provide complete range of services to children of members of group. May accept families or children as new members of group.
6. Armed Forces medical services.	6. May provide medical preventive, diagnostic and treatment services to children of Armed Forces personnel. Dental services usually available only at remote posts. Facilities may be greatly overburdened so that only acute medical care is actually available.
7. Neighborhood health centers.	7. May provide comprehensive health services without fee for children living in geographically defined neighborhoods served by centers.
8. Comprehensive child health centers.	8. May provide comprehensive health services without fee to children who are in the defined population served by the center.
9. Dental service corporations.	9. May provide planning and administration of dental services for day care children for a contracted fee.
10. Special voluntary agencies and public agencies (see Table II).	10. May provide funds or services for screening or treatment and rehabilitation of certain health problems. Each agency is usually concerned with a single category of illness.
11. State crippled children's programs.	11. May provide funds or services for screening or treatment and rehabilitation of certain health problems. Limited to certain categories of illness which vary from state to state and within states.

12. Medical assistance under Title XIX "Medicaid".	12. Provides funds to purchase diagnostic and treatment services for a wide range of health problems for poor children. Exact services paid for and rules for eligibility vary from state to state.
13. Insurance and prepayment plans.	13. Provide payment for certain kinds of health services for children of families covered by policies.
14. Community mental health centers.	14. Diagnostic and treatment services for individual children, program consultation and in-service training.

Table II — SOME SPECIAL HEALTH AGENCIES WHICH MAY HELP WITH DAY CARE HEALTH SERVICES:

1. Catholic, Protestant, Jewish Welfare Associations.	1. Money for services, social services.
2. Family service associations.	2. Psychological, psychiatric and social services.
3. Lions Club.	3. Eyeglasses for needy children.
4. Other fraternal organizations: Civic clubs, women's clubs, and Parent Teacher Associations.	4. Money or volunteer help for special projects.
5. Associations for the blind or for prevention of blindness.	5. Vision screening, special services for vision impaired children.
6. Associations for retarded children, cerebral palsy, crippled children and for children with special diseases.	6. Special services for retarded and handicapped children.
7. Tuberculosis associations.	7. Tuberculin testing and follow-up.
8. Mental health associations.	8. Psychological and social services, mental health consultations.
9. Visiting Nurse Association.	9. Home nursing and home visiting.

of the resources listed in the above tables. The day care program may contract with existing agencies to provide some or all of the health services. Responsibility for quality and coordination of these services remains with the day care program.

The health services director and the Planning Committee should investigate each of these sources of funds and services. Whether or not the services of a community are officially integrated and coordinated, the health services director must ensure that the health program for each child is meaningfully integrated and comprehensive. Resources need not be utilized solely because they are free.

For example, in one community free medical examinations were available from a well child clinic, but this clinic met at a time at which most of the day care parents could not accompany their children. It proved preferable to pay for examinations performed at a time more convenient to the parents and to the program.

In another community, the public health department provided good examinations, but was unwilling to provide treatment for even the simplest and most common conditions discovered.

It was more economical to have the children examined by paid physicians who could institute treatment on-the-spot than to obtain free examinations which required a costly and complex system of referral for treatment.

Ideally, each child should be examined by a physician or clinic who will institute corrective treatment for all defects discovered and who will also provide continuing health supervision for the child over the years to follow. An important goal of the program is to introduce a child and his parents to a physician or clinic that will be able to meet all of his health needs over an extended period of time.

Some important sources of funds and services for health care of children are described more fully below.

Armed Forces Medical Programs can often provide medical services for dependent children of military personnel. In communities with large military populations representatives of the military medical organizations should be involved in planning the program so that military personnel and facilities can be utilized to the greatest extent practical.

Neighborhood Health Centers and Comprehensive Child Health Centers (funded by the Office of Economic Opportunity and the Department of Health, Education, and Welfare) offer comprehensive health services to children living in certain specified geographic areas. These programs can provide nearly ideal care for all children in a day care program who are eligible for their services.

All of the states have **Crippled Children's Programs** which provide or purchase medical and co-ordinating services for children found to have certain types of crippling and handicapping conditions. The number and type of diseases covered varies widely from state to state, but usually includes at least orthopedic deformities and congenital heart disease. Any child meeting the diagnostic criteria of the state crippled children's program should utilize the funds and services available through this program.

Crippled children's programs often include the organization of high quality medical and administrative services which help to ensure that an afflicted child will obtain continuing health care. The state health department will have all necessary information.

The **Title XIX "Medicaid"** Provisions of the 1966 Amendments to the Social Security Act provide Federal aid to states to pay for a comprehensive range of health services to all recipients of public assistance and to families who are not recipients of public assistance, but who meet criteria for indigency as defined by each state. In most of the states the financial criteria for eligibility are similar to or more liberal than the eligibility requirements for "welfare". In many places a large proportion of the children in day care will be eligible to have their health care paid for by Title XIX programs. In order to receive payments, families must often establish their eligibility through rather complex procedures, and family workers from day care programs can help families accomplish this.

In some states and communities, funds available under Title XIX programs will be sufficient to pay for nearly all of the medical and dental examinations and treatments of day care children.

However, the availability of funds does not, in itself, ensure that all children will receive high quality health services appropriate to their needs. The health services director and his staff will still have a large responsibility to plan and organize a program in which each child will actually receive those health services most appropriate to his needs.

Day care personnel should contact their local and state health and welfare departments for complete information.

Private Insurance and Prepayment Plans may cover expenses for a few families who, through their employment or through the employment of a relative, are covered under a private or non-profit health insurance plan.

IV. Follow-up of Health Defects and Continuing Health Supervision of Children

A. Ensuring follow-up

The most difficult problem for most day care, nursery and school health programs is to actually obtain treatment for the defects discovered during the health examination. Simply informing a parent that his child needs treatment rarely results in the correction of a defect. Programs that have been successful have shown that the failure to obtain treatment, often attributed to "parent apathy", is actually the result of several factors that can be overcome, but only by special efforts of interested workers.

1. The parent must be present at the time of the health evaluation, and the physician must explain the nature of the health problem, the need for treatment, and the nature of the needed treatment.
2. The physician, a nurse, a social worker or a health aide, must help the parent to find the necessary services and to find funds to pay for the services.
3. Someone — nurse, social worker, aide or volunteer — must be sure that the parent and child actualy have transportation to the physician or clinic, and that other children in the family can be cared for during the visit.
4. Someone must carefully and repeatedly review health records to ensure that recommended treatment is actually taking place.

No single measure will be sufficient. Day care health services must plan to do **whatever is necessary** to ensure treatment and follow-up. When these measures are taken, "parent apathy" often becomes parent enthusiasm and reflects itself in improved health care for the child and in family and individual health care habits that persist for the child's lifetime.

Ensuring that such treatment and follow-up take place is a joint responsibility of the day care director, the physicians and other health personnel. The administrator must plan for and provide funds and services so that each family can arrange transportation and baby sitting. He must plan for a record system and for personnel that can determine whether each health problem discovered is actually receiving appropriate treatment. He must schedule screening tests and examinations so that the results of the screening tests and teachers' observations are available to the examining physician at the time that he makes his recommendations for health care.

B. Priorities for care

Day care programs must attempt to provide or arrange for all of the services necessary to remedy existing health problems and to prevent the occurrence of new ones. In actuality, funds are rarely unlimited, while services in the community are always limited, and they must be utilized efficiently. For this reason, each community and program must set priorities for the types of health services that are most important. The following general guidelines should be considered.

1. First priority should be given to acute conditions requiring immediate treatment to alleviate symptoms or to prevent disability. (For example, acute otitis media, toothache, streptococcal sore throat.)
2. High priority should be given to conditions which may be progressive if untreated. (For example, suppressed vision due to strabismus, positive tuberculin test, or dental caries.)
3. High priority should also be given to conditions which interfere with classroom function and require either corrective treatment (such as visual or hearing impairments) or special classroom programming (such as mental retardation, minimal brain damage, or severe behavior problems.)
4. Low priority should be given to certain commonly performed medical procedures which have never been scientifically shown to improve the health or function of children. The surgical repair of umbilical hernias, tonsillectomy and adenoidectomy, and circumcision are among such procedures. These procedures should not routinely be prescribed or encouraged. Prolonged individual psychotherapy and prolonged individual speech therapy should be recommended and funded only after review and consultation by pediatricians and the specialist involved.

C. Providing for continuing care

The future health of a child cannot be ensured solely by services rendered during the months or years he is in day care. A central goal of the health program is to see that each child continues to receive medical supervision after he leaves day care. The medical program can take several measures to attain this goal:

1. The health evaluation and treatment during day care should be performed by a physician or clinic that can continue to care for the individual child after he leaves the program.

2. The parents of children who need health care while they are in day care can be helped to find necessary funds or services through existing community sources such as Title XIX ("Medicaid") and Crippled Children's Services. Services will then be available to them after the child leaves day care.
3. The health record initiated in day care should become part of the child's school health record, and should also be transmitted to or retained by the physician or clinic who will continue to care for the child. Parents should have records of immunizations and screening test results.
4. Medical and dental services for day care children should be provided in an attractive and efficient setting that enhances the comfort and dignity of the parents and children. In this way, such services may help to overcome attitudes of apathy or antagonism to health services bred by previous experiences in the crowded, impersonal, unattractive clinics and emergency rooms which poor people most often patronize.

V. Record Keeping

The health program must keep three types of records; individual health records for each child; administrative records to assure that each child receives the examinations and tests he requires, and to report the findings and activities of the health program; and financial records if the day care program meets some of the costs of medical care.

A. Individual health records

The individual health record should serve three purposes; it should help ensure that the individual child gets needed corrective and preventive care; it should help the physicians and other health workers provide and arrange for such care; and it should help directors, teachers and other workers to mold an educational program especially suited to the needs of the individual child.

To aid the individual child, the record must completely, but concisely, summarize health findings as determined from the history, screening tests, and medical evaluation and must record all preventive measures in a way that clearly shows which recommended preventive measures have not yet taken place.

To aid physicians and health workers in providing needed health care, the record must provide a sufficient background of social, medical, and educational information of a general nature so that each health professional dealing with the child need not accumulate his own record and history.

To serve the educational needs of the child, health findings must be translated into recommendations for parents, teachers and others who work with the child. This process should begin at the time the original health evaluations are made. It must then be elaborated both by further written recommendations and by conferences between physicians, teachers, nurses and other health personnel.

Whenever a child is referred for consultation or treatment, all of the information in the health record should be made available to the consulting or treating professional. If this is not done, the consultant must either obtain and record his own information, an unnecessary waste of time and effort, or proceed without such information, with possible ill effects for the child.

Confidential nature of records:

In order to be useful to health workers and individual children, the health records must contain a large amount of information of a confidential nature. The privacy and confidence of this information must be respected. The records should be kept in a place that is not accessible to unauthorized persons. Such information should not be available routinely to teachers, administrators, or other non-medical personnel. Those portions of the health information which are pertinent and useful to teachers and to administrative personnel should be shared with them through reports and through conferences which translate the confidential health information into useful educational and administrative recommendations. Health information must not be released to insurance companies or other inquiring agencies without written consent of child's parents or guardian.

Suggested record forms:

In general, the day care health program should utilize the record keeping forms used by the school health program in the community. If there is no such form, or if it seems grossly inadequate, use may be made of the suggested forms included in the appendix to this manual.

B. Administrative records

Administrative records are necessary to be certain that each child actually receives the medical evaluation, screening tests, follow-up and preventive measures which he requires. They are also necessary to evaluate the effectiveness of the health program and to aid in setting priorities for planning and budgeting follow-up care. Local, state and national agencies require certain reports of health findings and health activities. Carefully kept records and statistics of health findings and health activities may be extremely useful in stimulating a community and its agencies to provide better health care for children.

A tickler file, a simple list, or some special method of flagging charts, must be used to identify on a week-to-week and day-to-day basis those day care children who require further health services. One such system is described in the "Health Services Bookkeeping System" in Appendix B.

C. Financial records

While actual bookkeeping and accounting will often be performed outside of the health program itself, the health services director should be kept aware of the costs of each component of the health services program, so that treatment plans and future budgets may be realistic.

VI. Budgeting

The health budget is actually a plan of health services presented with sufficient detail so that money values can be given to each item. The health budget for a day care program must, in addition, consider which parts of the health program can be performed or paid for by existing health and welfare resources of the community. It must make estimates, not only for procedures such as examinations, immunizations, and health education that can be planned for every day care child, but also for treatments and restorative services that will be necessary for only a proportion of children that is unknown at the time of planning. The following guidelines may prove helpful in developing a realistic budget:

A. Budgeting for health histories, screening tests, and medical evaluations:

The health director should determine whether there are existing resources in the community which can provide medical evaluations or provide funds to purchase such evaluations for some or all of the children.

A few children will already be receiving excellent care from private physicians or from clinics. A complete medical evaluation of such children who have received a thorough and careful examination within the past 6-12 months would be unnecessarily repetitive. However, even recently examined children may require screening tests and completion of immunizations. Each child should have a complete medical record to be used in day care and subsequently in the school. Funds may be necessary to obtain such a record even when the necessary medical evaluations have already been performed.

Certain programs, such as welfare programs and medical assistance programs under Title XIX, may provide funds for only those children who meet certain eligibility requirements. The number of children meeting such requirements should be determined or estimated before the medical budget is completed. Some such programs will not pay for routine medical examinations or screening tests, but will pay for any needed medical treatment. Such requirements must be known before a medical budget can be completed. Many public programs provide funds for medical services, but at a fee schedule so low that the fees are unacceptable to many physicians.

Money and physician's time can often be conserved if a social worker, nurse, or aide obtains and records much of the routine family and health information required for an adequate medical history. Funds for such personnel should be budgeted.

Many children will have received immunizations, examinations, and medical care from various sources in the past. Some provision should be planned and budgeted for obtaining copies or summaries of such previous health information. This information should be available to the physician at the time of his health evaluation. The cost of prerecording health histories may be calculated by estimating 15 to 30 minutes of a nurse, social worker, or health aide's time per health history.

B. Budgeting screening tests

Funds, services or equipment for screening tests can usually be obtained from other resources within the community. A trained vision tester, volunteer or professional, can usually test, make records for, and retest when necessary, approximately 8 to 10 children per hour. Schools, health departments, the National Association for the Prevention of Blindness, and the Volunteers for Vision, can often provide trained vision screening personnel.

A person trained in hearing screening can screen at least 6 to 10 children per hour. Schools, health departments and the American Speech and Hearing Association may provide the names of trained personnel or may provide services or volunteers.

Tuberculin testing requires no more than 2 to 3 minutes per child for administering the test, reading it 48 hours later, and recording the results. The materials for tuberculin testing cost 10 cents to 25 cents per child.

The hemoglobin or hematocrit test for anemia requires 3 to 6 minutes per child of the time of a nurse or a trained technician who obtains and labels the blood sample, performs the laboratory determination and records the results. The materials cost 2 cents to 25 cents per child, depending on the method used. Accurate determinations require equipment costing $100 to $200, so tests should usually be performed in existing laboratories, in which case charges may be much higher — $1 to $3 per test.

C. Budgeting physicians examinations

In the health evaluation for day care, the physician should review the medical history of the child with the parent and child, review the results of screening tests and of teachers' observations, examine the child, and record his recommendations for further health care, and for special educational considerations. He should institute treatment for any immediately remediable defects. This type of evaluation is much more than a simple "physical examination" and requires at least 20 to 40 minutes of the physician's time. The physician must be paid sufficiently so that he can spend this amount of time, with each child and parent. The physician performing examinations in his own office and utilizing his own equipment, nurses, and clerical help, must earn more per hour than a physician working in a clinic which supplies all these services. The health services director is usually aware of the locally acceptable rate of payment for physicians' services.

D. Budgeting for treatment

The amount of money that must be budgeted for medical treatment will vary tremendously from community to community, depending on the funds and services available in the community and the ability of parents to pay.

Cost of care for acute illness and accidents might be estimated from the cost of one visit to a physician per child for each four months of program.

The cost of care to remedy defects discovered in the health evaluations may be estimated by multiplying the average cost in a community of providing certain common types of medical services by the estimated number of children who will require such services. The average cost may be estimated by the health director in each community. The percentage of day care children who will require each service can be estimated from the previous experience in each community. If previous experience in your own community is not recorded, you may find the following table useful. It lists the most common defects requiring treatment and estimates of their frequency.

E. Budgeting for administrative costs

Most of the administrative costs of the health programs will usually appear in the personnel costs of the agency as nursing, health aide, social service and clerical personnel. One-half to one hour of clerical time and one to two hours of nursing and aide time per child per year should provide generous services except under unusual circumstances (such as long traveling distances, or when health personnel perform most of the social service functions.)

The medical or social service budget should include funds for transporting children, accompanied by parents, for needed examinations and care.

VII. Diversity, Decentralization and Innovation

All children in a day care program need not receive health services from the same source or organization. For example, in one large community, the health services for some centers might be arranged by the health department; for other centers by the school health organization; for other centers by a neighborhood comprehensive health center; for others by a medical society or university. The friendly competition between such groups might result in better health services for children, a greater community awareness of health problems, and more opportunities for inno-

Table III

PROPORTION OF CHILDREN NEEDING CERTAIN HEALTH SERVICES

Service	0-36 mo.	Age Group 3-5 yr.	6-12 yr.
Complete eye evaluation because of failed screening test	1-2%	10%	25%
Eye glasses	1%	2%	10%
Eye surgery	1/2%	1/10%	1/10%
Diagnostic hearing evaluation because of failed screening	1%	1-2%	1-2%
Follow-up of positive tuberculin test	0-2%	1-5%	1-5%
Treatment for anemia	10-60%	5-40%	0-10%
Specialist evaluation of heart murmur	1-2%	2-5%	2-5%
Evaluation and treatment for urinary tract infection	1/2%	1%	2%
Repair of inguinal hernia	1%	1/2%	1/10%
Treatment of skin disease	5%	3%	2%
Treatment of asthma or hay fever	1-3%	2-5%	3-10%
Evaluation of seizures	3-6%	1-2%	1-2%
Evaluation of impaired development or learning	2-5%	5-15%	5-20%
Evaluation of impaired speech or language	2-5%	2-5%	2-5%
Evaluation of behavioral abnormality	1-2%	2-5%	2-7%
Tonsillectomy	0	0-1%	0-1%
Circumcision	0-1%	0	0-1%
Umbilical hernia repair	0	0-1%	0-1%

Table III (a)

AVERAGE NUMBER OF PHYSICIAN VISITS FOR CHILDREN WITHOUT SPECIAL HEALTH NEEDS

	Age 0-1	1-3	3-5	6-12
Physician visits for acute illness or injury	4	3	3	2
Physician visits for health supervision*	6	2	1	1/2
Dental care visits	0	0	2	2

*"Physician" visit would include visits to a nurse practitioner or pediatric assistant performing the duties usually performed by a physician.

vations than would result from a single health program.

Decentralization of responsibilities may solve many problems in a large program. Such programs are often administratively top heavy, requiring a large amount of paper work and supervisory time to effect follow-up and to provide quality control. By breaking up a large health program into several smaller units, many of these hazards can be avoided. One way to achieve such decentralization is to make a single physician or nurse responsible for the total health program of one or two classrooms in a center. This person can plan the screening tests and health evaluations, consult directly with the center staff regarding health education, scheduling of examinations, and teacher's observations of the children's health and can, with the aid of a nurse or other child development center personnel, be personally responsible for ensuring that every child receives all the health services which he requires. The most difficult barrier that large programs face in seeing that each child receives care is in making the health of each individual child the personal responsibility of some member of the health services team. Decentralization is one way to promote such individual responsibility.

VIII. Self Evaluation

Those responsible for the health program must constantly evaluate and re-evaluate the success of their program in meeting the health goals enumerated at the beginning of this manual. Such an evaluation requires both statistics and subjective judgments.

Part of the self-evaluation process will come from responding to problems and complaints that arise during the program. The progress of the program should be discussed periodically with the participating physicians, dentists and other health professionals, with the day care staff, and with parents and the parent advisory council. The children themselves may provide observations that can be useful in carrying out a more effective program.

In addition to responding to known problems, the day care director and the health services director should ask themselves a set of questions such as those given below and support the answers by actual statistics from the program records. The answers to these questions will indicate what improvements or changes are necessary to make the health services program truly achieve the goals it has set for itself.

Self evaluation questions

1. How many children did **not** receive
   a. Tuberculin tests, hemoglobin or hematocrit determinations, hearing test, vision test?
   b. A medical evaluation by a physician with the parent present?
   c. Whatever immunizations were necessary to bring them up to the standards described in this manual?
   d. Evaluation and treatment by a dentist (for children over age 3)?
2. How many children found to be abnormal by screening tests or by physicians or dental examinations **failed to receive** whatever treatment services were necessary and recommended?
   a. for medical problems?
   b. for dental problems?
3. Did the program provide:
   a. Classroom activities relevant to health education?
   b. Health education as part of the program for parents?
   c. An example of high quality health care in a convenient, accessible and dignified setting?
   d. An example of concern for health care which the parents will want to emulate?
4. Did the health services provided in the day care program introduce the family to a physician and dentist or clinic that they can continue to utilize after the child leaves the day care program?
5. Did the health program find sources of payment, such as Medicaid, crippled children's programs, and welfare payments that families can continue to use for health care after the child leaves the day care program?
6. Were the health services for the day care children comparable in technical quality, convenience and personal concern to those available for more advantaged children in the community?

7. Were the health services provided in a manner that was economical of funds and of staff and patient time?
8. Did the health program fully utilize all acceptable existing resources for the health care of children?
9. Did the health care program involve a substantial number of health professionals, public health personnel and others in planning and carrying out the program so that they all became better aware of day care and its goals and of the health problems of young children?
10. Did the health program provide services for the children that they could not or would not have obtained had they not been involved in the day care program?

The "Health Services Bookkeeping System," included as Appendix B, provides a set of forms and procedures for keeping the kinds of records and statistics which can lead to meaningful self-evaluation. In addition, the procedures outlined will help assure that each child in the program will, indeed, receive all the health services he needs.

Health consultation

Each day care center should supplement the planning and self-evaluation activities of its director and health services director with activities of a health services consultant. An "outsider" who is not intimately associated with the program or with the community it serves can often recognize problems or solutions which are much less apparent to those already intimately involved.

Such a consultant can perform the following tasks:

1. Provide technical medical advice on the content and organization of the health services program.
2. Help the program work out administrative arrangements, especially in utilizing funds and services for health care which are potentially or actually available through existing public and voluntary agencies in the community.
3. Provide liaison with the professional medical community at the local and state levels.
4. Serve as an advocate for the rights and needs of day care children in their relationships with health departments, independent health agencies, hospitals, welfare departments, and professional groups.
5. Provide a more objective evaluation of how well the program is succeeding in achieving the health goals enumerated in this manual.

Throughout the country more than one thousand physicians have played this consultative role to Head Start programs and are well equipped by interest and experience to offer similar consultation to all day care programs. The names of such physicians in your area can be obtained by writing Head Start Consultation Service, American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204.

part two
PROFESSIONAL CONSIDERATIONS – MEDICAL

I. Acquiring Medical Data

As much pertinent health information as is possible should be accumulated and recorded for each child. There are three main sources for such information: records of past medical care, teachers' and workers' observations and interviews with parents or guardians.

The day care program should make every effort to obtain records or summaries of the significant medical care and immunizations that each child has received in the past. This information may be available from hospital clinics, private physicians or health department sponsored well child clinics. In special cases, it may be desirable to obtain the mothers' and infants' delivery and birth history from the hospital where the child was born, especially if the child now shows evidence of neurologic impairment. Written records of important health events are important supplements to the mothers' recollections of such events. By acquiring such records before the physician performs his complete health evaluation, a great deal of repetition, wasted time and unnecessary concern may be avoided.

The day care teacher is in an unusually good position to notice those children who may have health problems. She observes the children for many hours each week, whereas the physician can only observe the child for 20 minutes to an hour. Poor coordination, hyperactivity, language or speech impairment, excessive tiredness or withdrawal from others may be noted much more readily by a teacher than by either the parent, who usually has little basis for comparison, or the physician who has a limited time of observation. Some formal provision should be made to be sure that teachers' observations of the children's health and behavior are systematically recorded and are available to the physician at the time of his medical evaluation.

In some health programs, teachers accompany the child and parent to the physicians' examination. Other programs have provided special forms on which the teacher records her accumulated observations shortly before the child is scheduled for his examination. Sample forms for recording teachers' observations are included as an Appendix to this manual.

The interview with the parent is the most important source of health information. Every effort must be made to be sure that each child is accompanied by his mother (and father, if possible) at the time that he is examined by the physician. This may require scheduling some examinations during evening hours or on weekends, when parents can be present without missing work.

The physician's time can be conserved if a nurse, social worker, or health aide obtains routine family data, past medical history and immunization history from the parent and records the results of screening tests before the parent is interviewed by the physician. The physician can then use his time to explore questions raised by this preliminary data, and by his own findings.

The physician's interview proceeds before, during and after his actual examination of the child. This interview is one of the main sources of health education for the parent and child. It represents the most powerful tool for persuading parents to obtain needed health care for their children. The physician, at the end of his interview and examination, should carefully explain his finding and recommendations to the parents. By considering the family and social history, he can be certain that his recommendations are practical for the particular family, and can modify his recommendations and referrals to meet their preferences and needs.

A nurse, aide, or social worker can enhance the value of the physician's interview by discussing his recommendations with the parent. Such an interview can insure that the physician's recommendations are understood and that a practical follow-up plan is made. Problems of great importance will often be considered too trivial for, or not of interest to, a busy physician, but parents will often discuss such problems freely with other health personnel.

II. Screening Tests

Every day care program should incorporate measurements of physical growth, of vision and hearing function, and screening tests for tuberculosis and anemia. Individual programs may wish to incorporate screening tests for urinary tract infection, for parasitic infestations, lead poisoning, or for other health problems.

Screening tests should be carried out for all of the children. These are tests which may be performed by non-professional workers. They do not represent a complete evaluation, but they identify a group of children who require more complete professional evaluation.

In addition to these formal screening tests, health professionals should work closely with teachers in identifying children with speech and language disabilities, with behavior disorders, and with the disorders of perception, learning ability, behavior and physical coordination identified by the terms "brain dysfunction", "cerebral dysfunction", or "brain damage".

A. Assessment of physical growth

Height and weight (and for children from 0-24 months head circumference) measurements should be obtained at regular intervals and recorded on graphic forms which compare the measurement of the individual child with normal measurements of children his age.

In interpreting physical growth measurements, one must realize that many normal, well nourished children are small for their age. The rate of growth between two measurements separated in time is more important than a single "abnormal" measurement. Therefore, past records of height and weight should be recorded on the growth chart whenever they are available.

(0-3 years) Weight should be measured on an infant scale and recorded to the nearest half pound. Ordinary bathroom scales are too inaccurate to be useful.

Length should be measured with the infant or toddler lying on his back. A firm, right angled object is pushed against the heels, a similar object against the top of the head, and the distance between the objects measured with a yardstick or tape. Most physicians and clinics caring for children have special apparatus for this purpose.

Head circumference is measured with a tape measure around the largest circumference, including the forehead and occiput.

Measurements should be recorded at least 4 times in the first year of life, twice in the second, and yearly thereafter.

All measurements must be interpreted with respect to the infant's birth weight and gestational age. Low birth weight children who are growing well usually remain in the lower percentiles for many months.

(3-12 years) Weight should be measured on a beam balance scale. Height should be measured with the child standing with his back to a wall on which is mounted a paper, wooden or metal measure. A straight edged device rested against the child's head is held at a right angle to the measure.

B. Vision screening

The most appropriate visual screening test to be applied in any community can usually best be determined by the health services director in consultation with eye specialists who will be responsible for the complete evaluation and treatment of those children selected by the screening tests. These specialists can determine the type of tests and the criteria for passing or failing which they feel are most appropriate. Health departments and school health programs often have well established visual screening programs which can be applied readily to older preschool children.

When there is no established screening program and when consultation from eye specialists is not available to a community, the National Society for the Prevention of Blindness* or its state or local chapters, or the Volunteers for Vision may assist in setting up a screening program.

If none of these resources is available, the following vision screening methods may be used, which will generally identify most of the children who are in need of further eye care. The tests may be performed by nurses, by health aides or by volunteers trained in the method.

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*Address: 16 East 40th Street, New York, N.Y. 10016.

0-3 years

During the first months of life the best screening test of vision is the mother's and physician's observation of the behavior of the child. "Are you sure he can see?", directed at the mother or day care worker, will identify most children with visual problems. Later in the first year and during the second and third years the child's ability to notice and pick up small objects (such as the raisin used in the Denver Developmental Screening Test) is the best test of vision.

Strabismus (crossed eyes or wall-eyes) is the most commonly detected eye problem at this age. Parents and caretakers should be questioned about crossed eyes and the medical examiner should note the position on the pupil of the reflection of a light held several feet away. Pseudostrabismus — apparent crossed eyes due to a wide nasal bridge — can be differentiated by the above observation.

3-12 years

A Snellen illiterate E visual testing chart (obtainable from any hospital supply company or from the National Society for the Prevention of Blindness*) should be placed on a bare wall without windows. There should be no bright light or glare within the child's field of vision. The child should be seated comfortably with his head 20 feet away from the chart. A goose-neck lamp with a metal shade and a 75 watt bulb placed 5 feet from the chart will provide adequate standard illumination.

Before testing children should be instructed in the classroom, or in small groups about "how to play the E game". The child is told to indicate with his own fingers or a large cut out "E" the direction in which the "fingers" of the E point. After he has learned to do this, each child is tested individually. A black "pirate's patch" may be a more acceptable way of covering one eye than simply holding a card in front of that eye. The card or patch should not put any pressure on the eye, and the child should keep the covered eye open. First, the child's vision with both eyes is tested. Then, with his left eye covered, the child is asked to indicate which direction the E is pointing as the examiner uses a pencil or pointer to indicate specific symbols on the chart. An examiner may point first to the first E on the 20/60 line. If this is passed successfully, go on to the first two symbols on the 20/40 line. If these are passed on successfully, go on to the first three symbols on the 20/30 line, and if these are passed successfully, go on to the 20/20 line. Whenever a child fails to identify the position correctly, the tester should continue across the same line on the E chart. A line is considered "passed" if more than one-half of the figures on the line are correctly identified. The same procedure is repeated with the right eye covered. A child fails the test if, with either eye, he is unable to identify more than half of the symbols on the 20/40 line or if there is more than a two line difference in vision between one eye and the other, even if the worst eye is 20/40 or better.

A child who is unable to learn to "play the E game" should be reported as "non-testable" rather than "failed". Children who are "non-testable" may be given further instructions in the "E game", either in the classroom or by their parents at home, and re-tested at a later date.

Children already wearing glasses should be tested while wearing their glasses. If they pass the test while wearing their glasses, there is no need for further testing.

Children under age 6 who fail the test, and children who appear acutely ill or particularly fatigued, should be re-tested before they are referred to an eye specialist. Older children who fail the screening test should be referred to an eye specialist for further evaluation.

The results of the screening test should be recorded on the child's health form and should be brought to the attention of the physician at the time of the health evaluation.

C. Hearing test

1. 0-3 years

Observation of the child's behavior and his babbling and speech is the best screening test for hearing in the first years of life. In the first 3 months of life a child may blink at a loud sound or turn to look at the source of a spoken voice or a door opening. The question "Are you sure he can hear?", directed at the parent or caretaker, will identify most children whose hearing is impaired.

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*Address: 16 East 40th Street, New York, N.Y. 10016.

From 3 to 9 months, children who can hear enjoy listening to the sounds they make by babbling; deaf children are likely to be rather quiet. By 9-12 months most children will have a few words — mamma, dada, hi, bye-bye — which they can pronounce. During the 12-18 months children develop few new spoken words, but come to understand simple commands and directions. After 18 months they develop new words, even though most of their speech may be "jargon" which sounds like speech but includes only a few recognizable words. Children with seriously impaired hearing will not develop speech and language in a normal manner, and this will be the best clue to impaired hearing. The Denver Developmental Screening Test (see page 28) includes speech and language items which will identify children with special problems.

2. 3-12 years

A test with an audiometer can be made after age 3. The person performing the test must have special training in the use of the equipment and in the interpretation of the various responses which children may make to the test. Most school health programs and health departments have both testing equipment and personnel trained in its use. If equipment and personel are not available locally, help may be obtained from: (1) An audiologist in a neighboring community, (2) the regional or state health or education department, (3) the state speech and hearing associations, (4) the American Speech and Hearing Association*, (5) National Association of Hearing and Speech Agencies**. It will usually be more economical for a day care program in a smaller community to obtain services from a trained technician in a nearby larger community than to puchase its own equipment and train its own personnel.

Children will be better prepared for testing if the procedure is demonstrated in the classroom where the whole class can be made familiar with the sounds and taught to make the desired responses.

Children who cannot learn to respond to the test properly, or who give grossly inconsistent responses to sounds of any intensity should be designated as "nontestable". A child is generally considered to have failed the screening test if he fails to hear two or more tones in one or both ears at a level of 15 decibels (if the instrument is calibrated ASA-1951 standards) or 25 decibels (if the instrument is calibrated using HSO-1964 standards).

A large proportion of children who fail a hearing screening test have only temporary hearing impairment associated with upper respiratory infections. Such children should be re-tested after a few weeks before they are referred for specialist medical or audiology care.

Results of the preliminary hearing screening test should be recorded on the health form and be available to the physician at the time of his complete health evaluation.

D. Tuberculin testing

Tuberculin testing has the dual value of identifying children who may have tuberculosis, and of finding active cases of tuberculosis within the families or other intimate contacts of such children. Most day care programs will be able to obtain both test materials and personnel trained in their use through their school health program, the local health department, or the local county or state tuberculosis association.

A day care program conducting its own tuberculin testing program will usually find the tuberculin tine test to be most economical and convenient. Materials for this test are available through many health departments and through any pharmacy. Complete instructions for administering and reading this test are packed with the test materials. The test should be scheduled at such a time that the children will be in class three days later to have the test read. Any induration surrounding any of the four needle punctures should be considered a positive reaction.

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*Address: 4030 Old Georgetown Road, Bethesda, Maryland.

**Address: 919 - 18th Street, N.W., Washington, D.C. (formerly American Hearing Society).

Children who react positively to the tuberculin tine test should have a Mantoux intracutaneous test performed using either intermediate strength, PPD 0.1 ml or OT 1/1000 0.1 ml. The Mantoux test must be performed by a physician or a specially trained nurse or technician. It should be read on the second or third day. Induration of ten millimeters (less than ½ inch) or more is considered a positive test; induration of five to nine millimeters a doubtful test. A child with a doubtful test should have a chest x-ray immediately and a repeat test of the same strength within one to two months. A child with a positive tuberculin test should be referred to a physician for complete evaluation and care, and the health department should be notified. Most authorities recommend that children of this age with positive tuberculin tests receive drug treatment.

Since children who are known to have been exposed to an active case of pulmonary tuberculosis or children who have had a positive test in the past, may have large, uncomfortable reactions to the standard screening test, they should be referred to a physician for testing with a more dilute preparation of PPD or OT. Certain viral infections (such as measles, influenza, mumps), some viral vaccines (such as measles and influenza), administration of cortico-steroids, and extreme malnutrition may all depress or supress the tuberculin reaction for as long as four to six weeks. Children with a history of such conditions should be re-tested at a later date.

The results of the test should be recorded and should be available to the physician at the time of his examination.

It should be noted that primary tuberculosis is not a reason for excluding a child from day care or contact with other children.

E. Screening test for anemia

An accurate test of hemoglobin concentration is the best screening test for anemia. However, accurate tests require trained technicians and equipment that is moderately expensive. The Cyanmethemoglobin method, using a photocolorimeter and using carefully calibrated pipettes to draw the blood, is the only method of hemoglobin determination with sufficient accuracy to justify its cost. This test should be used when there is an established laboratory in a community that can perform the test accurately at a reasonable cost.

The microhematocrit test is somewhat less precise as an indicator of anemia. However, the laboratory determination itself is so simple and accurate that this test can often be more practical than a hemoglobin test. Most community hospitals will have equipment to perform this test, as will many health department clinics and doctors' offices.

In using either of these tests, blood samples may be obtained at the day care center or at another convenient place by a technician or nurse. The blood samples can then be transported and tested in a central location.

The average hemoglobin and hematocrit values in well nourished children of various ages are given below:

Age	Hemoglobin	Hematocrit
6-36 months	12.5 g (± 1.0 gm)	36% (± 2%)
3-6 years	13 g (± 1.0 gm)	38% (± 2%)
7-12 years	14 g (± 1.0 gm)	40% (± 2%)

While some physicians consider values below these to be normal in children from lower socio-economic groups, the prevalence of children with low hemoglobin or hematocrit values in these groups probably represents the high frequency of nutritional deficiency rather than a "normal" condition. Most children with values below these levels will increase their hemoglobin or hematocrit values if given supplemental iron.

Since iron deficiency will account for the overwhelming majority of low hemoglobin and hematocrit values, some programs may find it most practical to reserve complete hematological evaluation for children who have other evidence of a non-nutritional anemia, those with severe anemia (hemoglobin less than 8 grams or hematocrit below 24%) on initial screening, and those with less severe anemia who do not show a clear response to iron therapy after 2-3 weeks of treatment.

F. Urinalysis

0-2 years

Each child should have a test for PKU (blood test at birth, urine test later) during the first months of life. A single test is usually sufficient. After age 1, PKU will be detected by symptoms rather than screening tests, so the test is unnecessary.

A test for reducing substance in the urine (test paper or tablet) will detect a rare child with congenital metabolic disease.

3-16 years

Quantitative urine culture to discover bacteriuria is probably the most important screening test for urinary tract abnormality. Newly available test kits make such testing relatively inexpensive ($0.40-$1.00 per test). This test should be applied to all girls. Boys who have enuresis or other symptoms should also be tested, but asymptomatic boys do not require testing.

A simple and inexpensive screening test that may detect some urinary tract abnormalities is the use of a test paper which detects albumin, sugar and blood and determines the pH of the urine. Urine can be obtained at the center or in the home using clean glass bottles or paper cups. The test paper is dipped in the urine and color changes on the paper are interpreted according to a chart enclosed with the test papers. Children whose test shows more than 1+ albumin, sugar or blood or a pH of more than 7.0 should have a complete urinalysis using a clean specimen of the first urine that the child voids upon awakening in the morning. Most children with abnormal screening urine tests will be found normal on careful re-testing.

The health services directors in some communities may wish to include microscopic examination of the urine for cellular material or for bacteria in their routine screening program. However, this is usually more expensive than other tests, and much less informative than the urine culture mentioned above.

The results of the urine tests should be recorded and should be available to the physician at the time of his examination.

G. Speech screening

Many children talk very little during a medical examination, and the physician is in a poor position to judge the adequacy of their speech.

The teachers in the day care center should make note of any children whose speech is substantially different from that of the average child of the same age and cultural group. These observations should be available to the physician at the time of his examination. He can then make special evaluations of the ears, palate and larynx and may be able to give advice as to whether the speech pattern is normally immature or is pathological for the child. Whenever speech and hearing professionals are available to the program, they should work in cooperation with the physician and teacher in detecting, examining and evaluating speech abnormalities.

H. Developmental screening (see page 28)

I. Lead poisoning

When children live in old dilapidated housing they may eat scraps of paint or plaster containing lead. Children aged 1 to 6 years who live in such circumstances should have their blood tested for evidence of lead poisoning. A screening program for lead poisoning is beyond the capability of a day care program and must be planned in cooperation with a hospital, health department or health center. When day care staff notice peeling paint or plaster in children's homes, they should seek testing from a health facility.

III. Medical Examination

The examination of a child by a physician serves three purposes. It screens for frequent or especially important diseases or defects. It evaluates more fully any complaints or suspicions derived from the history, screening tests or other findings. It offers a setting in which the physician can interview the child and his parent, observe the child's behavior and observe the interaction of the child with his parent. A skillfully performed interview and examination introduces a child and his parents to the type of considerate, concerned and comprehensive medical care which many of them have never before experienced. As such, it is one of the most powerful tools in health education and in motivating families to seek future medical care on their own.

A. The content of the physical examination

The examination should include the complete examination of any system or region which is made suspect by the history or screening test results. In addition, a careful search should be made for certain defects that are especially common or important in each age group. Some of these are discussed below.

0-12 years

1. **Skin disease** may be found in more than 5% of otherwise healthy children. The entire skin surface should be examined. Pediculosis, scabies and ringworm represent problems of contagion as well as discomfort and disfigurement for the individual child. Eczema, important in its own right, may serve as a clue to other allergic conditions.

2. **The eye examination** should include, in addition to a vision screening test as described on page 21, examination of the optic fundi for the rare but important forms of intraocular pathology that can be discovered in no other way. The extraocular movements should be evaluated both for nystagmus and strabismus and for the inaccurate following and poor coordination which may serve as a clue to other evidence of cerebral dysfunction.

3. **The ear examination** should include, in addition to hearing screening as described on page 22, inspection of the external canals and the tympanic membranes. An abnormal hearing screening test can often be both explained and corrected simply by removal of impacted wax or a foreign body.

4. **Examination of the nose** may reveal impetigo or may reveal the pale blue boggy mucous membranes which alert the physician to inquire for other evidence of allergic disease.

4-8 years

5. **Tonsils and adenoids.** At age 4 to 6 the lymphatic tissue of the tonsils and adenoids has grown considerably faster than the surrounding oral structures. They appear extremely large and may even touch in the midline. There is no scientific evidence that such enlarged tonsils impair a child's health in any way. Nor does their removal affect the incidence of viral respiratory infections which occur 6 to 12 times a year in many children of this age. Large tonsils, which appear inflamed whenever a child has a respiratory infection, must be regarded as normal. Tonsillectomy or adenoidectomy can rarely be justified for an infant or pre-school child.

0-12 years

6. **Examination of the heart** should include palpation of the femoral pulses as well as palpation and auscultation of the precordium. As many as 40 percent of 3-8 year old children may be expected to have audible cardiac murmurs. No more than one percent of these murmurs will indicate actual heart disease, the remainder will be "benign" or "functional" murmurs. The examining physician must be prepared to identify most of these murmurs as benign. Failure to do so will subject a large number of children to unnecessary x-rays, electrocardiograms and referrals to a cardiologist and will be wasteful of professional time and money. Such referral may actually harm the children, for parents of children referred for cardiac evaluation, even when the evaluation proves normal, frequently impose unhealthy limitation on the activites of the child "just to be safe". A brief paper on the evaluation of cardiac murmurs in children forms Appendix C of this manual. It should aid the physician in correctly identifying benign murmurs and keeping referrals for complete cardiac evaluation to a minimum.

0-6 years

7. **Umbilical hernias** will be found in a substantial proportion of young children. The vast majority of these hernias will disappear spontaneously if left alone. Surgical repair is difficult to justify, since the risk of a complication of an untreated umbilical hernia is less than the small risk of complications of anesthesia or surgery if the hernia is repaired. Rarely, a child at the age of school entry with a particularly large or protuberant hernia will be embarrassed by its presence to such an extent that it interferes with his normal interpersonal relationships. Repair of the hernia for cosmetic reasons may be justified in such extreme cases.

0-12 years

8. **Inguinal hernias,** unlike umbilical hernias, do not cure themselves spontaneously. The risk of a complication arising in an untreated inguinal or femoral hernia is probably greater than the risk of surgery. A child with an inguinal hernia or femoral hernia should be referred for prompt surgical correction.

9. **Genital examination.** If examination of the male and female genitalia is included as a

matter-of-fact part of the examination, both parents and children will learn that this is part of any complete health evaluation and will accept it without embarrassment.

Fifty percent of 1 year old and 10-20% of 5 year old uncircumcised boys will have a non-retractable foreskin. This appears to be a normal self-correcting condition and should not be considered an indication for circumcision. There are no widely accepted health benefits of circumcision, and preschool boys are psychologically ill-prepared to undergo such a procedure.

Enuresis, bed wetting or daytime wetting, may be expected in 10 to 25 percent of 5-6 year olds. Most such children do not have important psychological or physical disease, but enuresis should alert the physician to look carefully for other evidence of urinary tract disease or regressed behavior. Complete urinalysis and quantitative urine culture are probably desirable in the evaluation of enuresis. Complete urological evaluation will be desirable only for the small group of children who have other evidence of urinary tract pathology.

0-4 years

10. Feet, legs, knees and hips. Infants learning to walk turn their toes in. One and one-half year old toddlers look bowlegged. Three year olds look knock kneed. All young children appear to have flat feet. All of these conditions — unless severe — are normal and do not respond to treatment.

A few rules of thumb help to distinguish the large number of children with normal variations from those few with true abnormalities. The normal foot is fully flexible and can be easily manipulated into and beyond a normal position; a deformed foot cannot be easily manipulated. Knock knees or bowlegs are probably normal if there is no more than 3 fingerbreadths (2½ inches) between the knees or the ankles when the patient is lying on his back with his legs extended. No matter what the appearance of the arch of the foot, flat feet don't exist unless there is pronation of the foot with a tendency to walk on the inner edge of the foot and shoe, and with an out-turning of the lower part of the Achilles tendon.

9-12 years

11. Breast development. The first adolescent breast development in girls consists of a firm button of tissue under the nipple. This often develops on one side several months earlier than on the other side. Child, parents or physicians, alerted by cancer publicity, may be greatly concerned and require reassurance, or better, preparation through counseling. Pubescent boys often show similar buttons of breast tissue and need reassurance, not only that it is not cancer, but also that it is normal and masculine and will usually disappear in one or two years.

B. Developmental and neurological examination

Structural or functional abnormalities of the nervous system represent one of the most common, and certainly most important, chronic handicapping diseases of childhood. Brain dysfunction or cerebral dysfunction (considered to be better terms than the more frequently used "brain damage") is estimated to affect at least 3 out of 100 elementary school children and to be a factor in behavior and learning disorders.

Gross neurologic abnormalities resulting in cerebral palsy, mental retardation, frank seizures, aphasia, psychosis, or special sensory defects, will be identified relatively easily by a standard medical examination and history. Children with "minimal" brain dysfunction are more difficult to identify. Such children may show retardation of only a few specific intellectual functions such as visual or auditory perception. They may show poor motor coordination or clumsiness rather than frank "palsies". Brief episodes of distorted or explosive behavior may be noted rather than obvious seizures. Hyperkinetic and impulsive behavior or extreme lethargy may characterize their behavior and poor speech and language acquisition may be evident.

Identifying children with evidence of brain dysfunction is important for four reasons. First, children with one of the symptoms of brain dysfunction are likely to show evidence of another on more careful investigation. Unusual clumsiness may serve as a clue for a physician to investigate very carefully for seizures or for learning disabilities. Second, medical treatment can often be of great benefit to such children in stopping frank or disguised seizures with anticonvulsants and in modifying hyperkinetic or impulsive behavior with stimulant drugs such as amphetamine. Thirdly, such children run an extremely high risk of school failure. It may be possible to reduce this risk by giving them special perceptual training, much of which might be incorporated into the curriculum of a day care program. Fourthly, both teachers and parents can be counselled that children with such handicaps are neither stupid nor naughty, and that the behavior and learning problems are the fault neither of a "bad" home nor a "bad" school. Both teachers and parents can then treat the children in a way that will help the children overcome their handicaps, and not waste their time blaming each other.

1. History and interview

Both frank and minimal brain dysfunction are frequently associated with complications of pregnancy and delivery, with severe neonatal problems, or with severe illness or injury involving the nervous system. The presence of any of these factors in a child's history should make the physician especially alert to the possibility of neurologic impairment.

Children with brain dysfunction frequently show distorted patterns of behavioral development. The five major areas of behavior (1. gross motor function, 2. fine motor and manipulative function, 3. language, 4. adaptive function, 5. social and personal function) usually develop at similar rates, but children with brain dysfunction often show one or more functions lagging far behind the others. Such unevenness of development will only be elicited if the physician inquires separately about each of the major areas of development.

Whenever there is a suspicion of brain dysfunction, the history should be meticulous in searching for any history of episodic changes in behavior or state of consciousness which may indicate seizures.

2. The developmental examination

During his examination, the physician should assess carefully each of the five areas of behavioral development mentioned above, using norms and techniques such as those in the references below*. In making such an assessment, parents' reports of what their child is currently capable of doing can usually be considered accurate. Their recollection of the age at which their child first achieved a developmental task is notoriously inaccurate except when the task was achieved particularly late.

The Denver Developmental Screening Test can be administered accurately by specially trained nurses, teachers, aides or other workers. Day care personnel may find the standards of this test useful in their own observations of the child.

Children born prematurely normally lag in their psychomotor development by an amount equal to their degree of prematurity. An infant born 6 weeks before he was due will normally test 6 weeks behind a child born after a full 40 weeks pregnancy. This should be taken into account in the expectations, counselling and tests of young infants.

3. Examination for "soft" or minimal neurologic signs

There are several observations of abnormal motor and perceptual development that can easily be incorporated in the physician's clinical examination and which may help identify children with cerebral dysfunction.

a. Abnormal movement patterns of a choreiform or athetoid pattern may be observed as the child is sitting or standing during the interview or while he is performing a task. These purposeless, nonrepetitive, fast or slow movements of the extremities, trunk or face give the child the appearance of being unable to sit still. These movements are often markedly accentuated when the child stands with his feet together and extends his arms in front of him at eye level with the palms down and the fingers spread. There may be marked facial grimacing as the child attempts to remain steady, or the hands may pronate, diverge markedly, or show marked movements

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*Illingworth, R.S. **The Development of the Infant and Young Child, Normal and Abnormal,** Baltimore, Williams & Wilkins, 1963.

*The Denver Developmental Screening Test. Instructions and test materials are available to any physician, free of charge, through the Mead Johnson Co., 2404 Pennsylvania, Evansville, Indiana.

of the fingers. The child may be unable to maintain this posture for more than a few seconds. The examiner will have to develop his own standards of abnormality for each age group. The more marked cases will be appreciated as abnormal by almost any observer.

b. Marked motor clumsiness may be observed as the child walks or climbs onto the examination table. It can more easily be observed if the child is asked to run, skip or hop and to walk a straight line by placing one heel in front of the other toe. In addition to simple clumsiness, impaired children may require markedly increased effort or may show bizarre posturings of the arms, trunk and face in the attempt to perform the tasks and maintain balance. Walking a short distance on the heels with the toes elevated may bring out similar distorted movement patterns.

c. Poor eye-hand coordination may be noted on routine neurologic tests such as the finger-to-nose test, or rapid alternating pronation and supination of both hands simultaneously. In young children, poor coordination or distorted movements may be apparent as they build block towers or handle the small pellet in developmental testing. In an older child it may be more apparent when a child is asked to use paper and pencil to copy simple geometric figures, to daw a person, or to write his name. Distorted coordination or perception may be demonstrated by difficulty in making two lines join or in "turning" corners resulting in "dog-ear" deformities of copied forms, by rotation of figures or by markedly increased effort in performing the tasks. Clinical experience is necessary to judge the limits of normality for each age group of children.

The physician should work closely with the day care workers, the teacher and the psychologist. Their observations of abnormal tests or of classroom behavior may alert him to look for signs of brain dysfunction, and his observations may lead to diagnostic psychological testing or to more systematic classroom observation.

IV. Treatment of Medical Defects

The purpose of all examinations and screening tests is to identify children in need of special medical or educational treatment. Examinations which do not lead to remedial or rehabilitative treatment represent a waste of time and money.

Specific suggestions as to how various health conditions should be treated are beyond the scope of this manual. However, certain procedural arrangements, many of which are discussed more fully in Part One of this manual, can help to make certain that all defects discovered in the health program actually receive treatment.

The record system must provide for easy identification of those children with health defects, and for the easy assessment of the progress made in bringing these children to treatment. The use of the Head Start Health Services Bookkeeping System (see Appendix B) is strongly recommended. Priorities must be set to establish which health defects should have first call on the limited financial and professional resources available in any community. All of the facilities in the community which can be brought to bear on the health problems of children must be mobilized.

Most importantly, the health services director must assume responsibility for assuring that all health defects discovered actually receive competent and continuing care until they are remedied or until a pattern of continuing care for them has been well established.

V. Preventive Measures

A. Family health

The health of each member of a family is important to the health of the others. A child's health is not secure if he is living in a family with unsolved health problems.

While the focus of a program must be the child in day care, many aspects of a health program can be of great benefit to the entire family. During their interviews with parents, personnel may identify health problems in other members of the family. The staff can help them find appropriate services and can aid them in obtaining funds to pay for each service.

When the day care program utilizes Medicaid or other existing community funds or services to provide immunizations, brothers, sisters and parents of day care children can be included in the program. Similarly, when existing community resources are used to provide screening tests, brothers and sisters can be included.

The health education program for parents can include topics such as nutrition, family planning, prenatal care and care of the aging which will affect the health of the entire family.

B. Immunizations

Every child should receive immunizations according to the schedule below. No child should be denied admission to day care because of incomplete immunization, but his immunizations should be brought up to date as soon as possible after he enters the program. The following recommendations have been adapted from the American Academy of Pediatrics **Report of the Committee on Infectious Diseases, 1970*.**

SCHEDULE OF IMMUNIZATIONS

	Age						
Immunizations	**Months**				**Years**		
	2	**3**	**4**	**6**	**1-1½**	**5**	**12**
1. DTP	X	X	X		X	X	X
2. OPV Trivalent (Polio)	X		X	X	X	X	
3. Live Measles					X		
4. Mumps					X		
5. Rubella					X		

The schedule for immunizations is flexible and may be modified to meet individual and community needs. National recommendations may change as new knowledge becomes available. The size of the individual doses should be determined from the manufacturer's package insert which is enclosed with the vaccine, since different preparations vary in concentration.

Vaccines should be injected deep into the muscles of the lateral thigh, the deltoid area of the upper arm or the upper outer quadrant of the buttock, carefully avoiding the area of the sciatic nerve. Whatever site is used, special care should be taken so that the injection is given into the muscle mass. Each of the first 3 DPT shots should be given at a different site.

Precautions and contraindications: (General) An acute febrile illness is reason to defer immunization until the subsequent visit or until infection is properly controlled. Minor infections not associated with fever, such as colds, are not contraindications.

A severe reaction, consisting of high fever, somnolence, or convulsions, to any vaccine is cause for caution with subsequent injections. If a prolonged episode of convulsions occurs, the next injection should be deferred, and then smaller — 1/10 to 1/5 of the usual dose — doses of single antigen should be used as test doses and immunizations completed slowly using single antigens. The speed and dosage will be determined by the severity of the reaction and the type of injection.

Pertussis: Immunization should not be repeated if thrombocytopenia developed after a DPT injection.

Smallpox:* Infants and children with eczema, dermatosis, open wounds or burns should not be vaccinated against smallpox since generalized vaccinia or secondary vaccination sites may result. Children or adults should not be vaccinated if they are in close contact with a child or adult with eczema or other dermatitis. Persons receiving immunosuppressive therapy should not be vaccinated.

Measles: Immunization with live attenuated vaccine is contraindicated in leukemia, lymphoma and other generalized malignancy, in diseases in which the normal mechanism of immunity is absent, during immunosuppressive thereapy, following immunoglobulin administration, in severe febrile illness, uncontrolled active tuberculosis and in pregnancy. Children with known egg sensitivity or dog dander sensitivity should probably receive the vaccine prepared in the tissue to which they are not sensitive.

Mumps: Same contraindications as for measles.

Rubella: Same contraindications as for measles.

Interruption of schedule: A delay between doses does not interfere with final immunity and does not necessitate starting the series over again, no matter how long the interval.

Immunization of children not immunized in infancy: Children under age 6 may be immunized with 3 doses of DPT at intervals of 4-6 weeks. In children over 6 years of age, adult type diphtheria-tetanus toxoid (Td) is preferred. At any age after the first year oral polio vaccine should be given in two doses at a 6-8 week interval followed by a third dose ½ to 1 year later.

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*Available from the American Academy of Pediatrics, P.O. Box 1034, Evanston, Illinois 60204. Price $2.00.

* Smallpox vaccination is no longer recommended for routine immunization of infants and young children.

Measles, smallpox and mumps vaccines may be given at any age.

Rubella vaccine should not be given to women of child bearing age without elaborate precautions, as noted in the **Report of the Committee on Infectious Disease.**

C. Health education

The day care program can usually provide direct health services only to the children actively enrolled. But when the health care program is joined to an effective education program, it can change the health, not only of the involved children, but of their brothers and sisters, their parents and the community — and change it permanently.

To accomplish this, health education must encompass four basic principles:

1. It must be directed not only at children and parents, but also at the day care staff, at health professionals and at citizens of the community.
2. It must define its goals in terms of what the learner will **do** as a result of the program, not what he will know how to do or think he should do.
3. It must recognize that people learn by doing, not by being told what to do.
4. It must emphasize skills which lead to further learning rather than information which is specific to only a few situations.

The following paragraphs describe some educational goals for each of the target groups and describe some ways in which these goals might be achieved using the above principles. The list is far from complete and is presented as a set of examples rather than as a model program.

1. The children

There are several things which children can **do** to improve and maintain their own health. These include:

a. Brush their teeth, wash their hands and maintain good personal hygiene to protect themselves and others from disease.

b. Go willingly to the doctor and dentist and cooperate in medical and dental care.

c. Protect themselves from accidental injury.

d. Eat foods that contribute to health.

Habits of personal hygiene can be taught by several techniques, but demonstration and practice are the most important. Toothpaste and toothbrushes, one for home and one for school, can be given to each child. The toothbrushes can be used every day in the classroom. Everyone present, teacher, aide, volunteer, can participate enthusiastically, and there can be plenty of talk about when the teeth are brushed (after meals and snacks and at bedtime), why the teeth are brushed (makes the mouth feel good, makes the mouth look attractive, gets rid of food particles in the teeth, etc.). Hand washing, the use of tissues or handkerchiefs after coughs or sneezes, and good grooming can be taught in a similar fashion by demonstration, participation, with concurrent discussion.

Children will go willingly to the doctor or dentist and cooperate in their medical and dental care if they know what is coming and expect it to be reasonably pleasant if not entirely painless. A classroom discussion or movie can give the children some idea of what will happen to them when they visit a physician or dentist. Better yet, a field trip to a practitioner's office or a classroom demonstration will show the children (and the staff and parents) what will be done, how it will be done and, in general, what to expect. The day care program can assure, by pre-planning, that the medical and dental care given to the children will be given in a setting which respects their own and their parents' comfort and dignity.

Children learn to protect themselves from accidental injury as they clean up spilled liquids or other safety hazards in the classrooms and as in their play they develop new body skills for safe climbing and use of large equipment. They learn about pedestrian safety as "stop, look and listen" is spoken, demonstrated, and expected of them during their neighborhood walks and field trips. They learn about environmental sanitation as they use wastebaskets and trash cans, and help keep their premises neat. They learn to avoid accidental poisoning as they observe the precautions taken in the use and storage of medicines and household products, and as they are specifically taught that such substances are poisons.

Children learn to eat foods that contribute to good health as they participate in a snack or meal program which introduces them to a wide variety of tastes, textures and temperatures and a sampling of a wide range of nutritious foods — raw vegetables, cheese and cottage cheese, fruit drinks. Their enjoyment and enthusiasm is enhanced if they help prepare and serve their own food, and as the things they eat and their mealtimes are used to enhance social interaction, vocabulary building and other educational goals.

Children learn about first aid and develop healthy attitudes to minor accidents and diseases as these are handled matter-of-factly and without fuss by the classroom teacher, parent or aide. Their attitudes toward physical deformities, seizures or unusual behavior patterns are molded as children with such handicaps are included in the regular day care program as full participants within the limits of their handicaps.

2. Parents

Among the things that parents can **do** to improve and maintain the health of their children or families are:

a. Seek preventive medical and dental care and prompt care, as appropriate, for illness and injury.

b. Maintain their own habits of personal hygiene and teach and encourage their children to do so.

c. Protect themselves and their children from accidental injury.

d. Prepare and serve foods that promote health.

e. Become skillful observers and reporters of their children's health symptoms and problems.

f. Learn to manage the commonplace, recurring health problems of childhood.

g. Learn to fully exploit the institutional health resources of their community, and the talents of the nurses, dentists and physicians who care for their children.

h. Lend support as publicists and voters to such community programs as water fluoridation, family and child health centers, community dental programs, etc.

Parents must learn to seek preventive medical and dental care and prompt care for illness and injury if their children are to receive good health care during the times they are not in day care or after they have left day care. The importance of such medical and dental care is best demonstrated by the importance which the day care program itself attributes to health care. If the day care program treats health as a high priority item, participating parents can be expected to do the same. A well run health care program will also demonstrate to the parents that medical and dental care can be pleasant and dignified, and it will show them how funds for health care can be obtained from medical assistance programs, school health programs and other sources. Members of the day care staff should point out, whenever the opportunity arises, that preventive medical and dental care is usually cheaper in the long run than delayed care. It is quicker and less painful.

Parents, too, will acquire the habits of personal hygiene, such as toothbrushing and hand washing, as they are involved in the classroom program for children and as their own children become enthusistic hand washers and tooth brushers, etc. The parents, in turn, will reinforce their children's new habits.

Parents, like children, must know how to prevent accidental injury. They should know what kinds of hazards are most dangerous to children at different stages of development, which is easily pointed out in the day care setting. They should have an understanding about at what age protection from certain accidents should change to education and training of the children to avoid accidents. The infant must be protected against poisoning by physical barriers. A four or five year old child should already have learned not to put medicines, household products or other nonfood items in his mouth. The toddler must be protected from water. The school age child should have learned to swim. Parents must recognize that the examples which they set as parents will be imitated by their children. They should understand that "stay away from the burners, you'll burn your hand" will teach their 3 year old child more than a simple "don't do that".

The parents' willingness to prepare, eat and serve healthful foods for the entire family will increase as they participate and observe day care classroom snack and mealtime programs, and as their children talk at home about their new food experiences in day care. Special classroom and demonstration activities for parents in the field of nutrition may be desired by some of the parents.

Parents learn to be better observers and recorders of their children's health and symptoms when there is regular discussion between the day care staff and the parents, of the kind of symptoms and behavior which might indicate illness. Nurses and doctors caring for a sick child can alert the parents as to which observations are most important in assessing the course of the child's illness and can make it clear to parents that the parents' own observations are more important than the physician's examination in diagnosing treating and evaluating diseases and injuries.

Parents learn to exploit the health resources of their community as these are identified for them by the day care health staff, and as the health staff helps the parent make contact with, keep appointments with and follow-up on treatments and advice recommended by doctors, dentists, clinics and health programs. They learn to better exploit the knowledge and talents of the health professionals serving them as they learn by example and precept to record and report their own observations of the child's health and to ask and demand explanations for those aspects of medical care, examination and treatment which they don't fully understand.

Parents, staff and the entire community will be stimulated to support community wide health programs when they learn the benefits of such programs as water fluoridation and when they note the ill effects of preventable disease in an un-immunized child.

3. Day care staff

Many of the necessary activites of the day care staff have already been described in the activities which they must provide for children and parents. Their own understanding and enthusiasm for the health program will determine, to a large extent, how well it is accepted by the children and parents. In addition, the day care staff must formulate and institute a health program such as the one described in this manual, and must provide a safe environment for the children while they are in day care and while they are travelling to and from day care.

4. Physicians, dentists, nurses and other health professionals

The professional concerned with child health must **do** several things if the children in their community are to have better health:

a. Plan and support community wide health care programs.

b. Provide services that meet the special needs of poor children and their families.

c. Provide care and education that considers and builds on the strengths and cultural patterns found in their communities.

d. Critically evaluate present and future health efforts and improve them.

Through involvement in the total planning process for a day care health program, health professionals orient themselves to the problems of providing care to all of the children in the community, and think about organizations and procedures that are economical from a community, as well as an individual, point of view. By listening to the comments of day care parents individually and in parent advisory councils, professionals learn how parents and families view health care. They learn that the failure of many families to obtain health care is not usually due to apathy or poor motivation but rather due to very real barriers to care. The barriers may be financial, administrative or personal. Health care can be expensive, and many families are not involved in a pre-payment plan. Public medical assistance programs often contain no preventive care benefits or benefits for preventive or dental care that are limited and poorly financed.

Even when money for care is available, transportation from urban and rural areas to clinics or doctors' offices can be extremely difficult, time consuming and expensive. Clinic and office hours may make it almost impossible for working parents or parents with young children and no baby-sitting arrangements to attend. Poor people, people "on welfare", or people of certain racial or ethnic groups may not be welcome in certain physicians' and dentists' offices or clinics. When public clinics are available, they are often crowded, uncomfortable and undignified. Faced with these barriers and simultaneously faced with competing problems of food and housing, it is not surprising that health care achieves low priority for many families. Health professionals who plan and carry out a day care health program learn that these barriers can be overcome by improving facilities and payment programs, by changing schedules to meet the convenience of the families served, and by being considerate of the families' time, comfort and dignity.

By listening to advisory committees and by working with health aides who live in the community served, professionals learn to utilize the strengths of existing cultural patterns rather than to ignore them.

By critically reviewing the achievements of the health program they have planned and carried out, professionals acquire skill in self-evaluation and obtain the type of feed-back that is necessary for program improvement. By dealing directly with individual children and families living in unfamiliar subcultures, professionals learn to think in terms of "this child and his family in their setting" rather than in terms of "these people".

5. Members of the community

Every citizen must **do** at least two things if the community is to have good child health facilities. He must support public health programs, such as water fluoridation; he must support health care programs which reach all children and families.

A citizen will support water fluoridation, environmental sanitation and dental care programs only if he recognizes their advantages. When the widespread health and dental problems of pre-school and school age children are publicized, the citizen learns that there is a health problem in his community and that the problem begins before school age. When the lack of previous health care in day care children is publicized, the citizen learns that something new is needed to get health care to pre-school children. When he sees how health needs and cost could be reduced by fluoridation and environmental sanitation, he supports — as a voter and as a publicist — these programs in his community.

D. Employee health

An employee with a disease that can be transmitted to children represents a threat to the health of the children. The most important consideration is tuberculosis. All employees, volunteers and others, including bus drivers, janitors, and food handlers, should be screened yearly for tuberculosis. Depending on conditions in the community, tuberculin testing, miniature chest X-rays or full size chest films may be the most economical form of screening.

Employees should be told that they should not be in contact with the children at times when they have respiratory infections, skin infections or other types of communicable disease.

Complete health examinations for employees may be required by state law. Otherwise, careful interview and supervision are probably more effective.

Health insurance programs or prepaid health care programs should be routine employee benefits.

E. Environmental sanitation

Special efforts must be made to protect young children from the hazards of infection and accidental injury.

The following guidelines, standards and suggestions have been compiled to ensure that each day care program that brings young children together in groups has an effective program for protecting children from these hazards.

The same guidelines should be useful in health education programs for parents, whether or not their children are cared for in groups.

These guidelines are intended as

minimal sensible standards that can be applied whenever a day care program might be instituted. They are not intended as ideals or as guidelines for new construction.

Any day care center program which provides group care for children (this would be defined differently in each state code) must comply with the pertinent local and state health and sanitation regulations pertaining to nursery schools or day care centers. Since each state and local code may vary in its requirements, all programs that provide group care, for 3 or more unrelated children should, in addition to meeting the applicable local and state codes, meet the following standards.

1. Medical supervision

Each center should have a physician designated as the health services director. This physician, or a substitute, must be available for consultation at all times. In addition to the responsibility for organizing and arranging individual health services for each child at the day care center, the health services director will be directly responsible for the environmental health standards of any place in which children are brought together for group care. He will be expected to consult freely with physicians caring for individual children, with public health authorities, and with the day care advisory board and parents in developing or modifying special center health policies.

2. Premises and outdoor facilities

The premises of the day care building should be free of smoke, dust, fumes, odors, excessive noise and other undesirable conditions.

The premises should be provided with effective means for ensuring the safety of the children during pickup and delivery, such as designated loading zones, off-street loading areas, etc.

Appropriate measures, including adequate supervision, use of seat belts, etc. should be instituted to ensure the safety of children who are transported by bus or automobile as part of the program.

The premises should be well drained and free of insects and rodents.

Outdoor play areas should be fenced, provided with gates that children cannot open, and readily accessible to toilets and indoor activity rooms.

Fences, gates and play equipment should be free of hazards such as splintered edges, rusty protruding parts, loose or pointed parts, or paint which contains more than 1% lead. Climbing equipment should be placed over soft grass or sandy surfaces, or artificial soft surfaces. Equipment available to children of a particular age should be appropriate to the developmental competence of children of that age. Equipment beyond the developmental competence of the child can be a major accident hazard. Children between the ages of 1 and 3 must be protected from the more violent activities of older children. This can be accomplished by using outdoor facilities at separate times, providing separate play areas, or by careful adult supervision.

3. Buildings and indoor facilities

Every structure used for day care must meet the fire and safety requirements of the local and state governments and must be provided with a safe and effective heating system.

Floors, walls and ceilings must be of sound construction and in good repair and kept clean.

Doors and windows should be kept clean, and all openings to the outer area should be screened unless other effective measures are provided to exclude flies.

All rooms should be adequately ventilated either by natural or artificial means so as to be free of objectionable odors or air contaminants.

All rooms should be provided with sufficient artificial lighting so that objects on the floor are readily visible and so that all floor fixtures, furniture, etc. can be readily cleaned and inspected for cleanliness.

Each group of day care facilities should be provided with at least one toilet and one washbasin for each ten children. The washbasin should be supplied with hot and cold water, a combination faucet, soap, and sanitary towels. Hot water supplied to washbasins should not be hotter than 140° Fahrenheit.

4. Drinking water

If drinking fountains are provided they should be of angle type and not be installed in toilet rooms. If drinking fountains are not provided, individually labeled drinking glasses or cups should be provided for each child, or single service paper cups provided. Drinking water under pressure should be provided in each center. The water supply should be safe, of sanitary quality, meeting the standards of the local and state sanitation departments.

5. Sewage disposal

All sewage, including liquid wastes from emptied toilets, lavatory sinks and other plumbing fixtures shall be disposed of in a public sewer system or, in the absence of a public sewer system, by a private sewage system approved by the local and state health department.

Solid waste garbage can be collected and stored water-tight garbage cans provided with a tight fitting lid. Plastic bag liners are desirable. All other rubbish should be kept in suitable containers pending removal. The entire premises should be kept clean and free of trash, litter and obsolete and unnecessary articles.

6. Rest facilities

Some provision for individual sleeping facilities (cots, mattresses, floor pads, etc.) must be provided for each pre-school child who remains in a day care facility for more than 4 hours in a single day. This rest equipment should be readily cleanable and must be kept clean.

7. Furnishings

Furnishings should include a) separate sinks for handwashing by personnel, b) soap, c) paper towels, d) covered waste receptacles, e) separate storage for linen and clothing for each child.

In addition, if children under two years of age are cared for, the following equipment will be needed: a) crib for each child under 1 year of age, b) covered receptacles for soiled diapers, c) covered receptacles for soiled clothing and linen, d) individual shelves for storage of articles for the individual care of each child.

8. Food service santitation

All food and drink should be clean and wholesome, free of spoilage, free of adulteration and safe for human consumption. Food should be obtained from sources complying with local state and federal laws. No home canned or home processed foods should be used. All food and drink should be stored, handled and prepared and served in a sanitary manner.

Residential type of kitchens and kitchen equipment are satisfactory in most cases providing: 1) children are kept out of the food preparation areas of the kitchen while the food is being prepared; 2) facilities are adequate for proper storage of food and supplies; 3) refrigerator capacity is adequate and used for keeping perishable food and drink below 45° Fahrenheit; 4) all multi-use eating and drinking utensils are thoroughly cleaned and rinsed after each use and a locally approved dishwashing procedure or an approved dishwashing machine is used. Where single service, disposable eating and drinking utensils are used, a simple one compartment sink would be adequate. All kitchen equipment, work counters, utensils, tables, sinks, cabinets, cupboards, etc., must be kept clean and in good repair.

Particular attention should be given to the needs of the bottle fed infant, and provision must be made for adequate protection. The health services director, in consultation with the local public health officials, should determine the procedure to be used. It is strongly recommended that commercially prepared, prepacked, ready-to-feed formulas be used in most day care centers caring for infants. The elaborate sanitation requirements necessary when formulas are prepared for groups of young infants would be far more expensive than even the rather high cost of the ready-to-serve, prepared infant formulas.

All persons handling food, drink or utensils should wear clean outer clothing and should be clean as to their person and methods of food handling. Simple smocks or aprons should be available to ensure personal cleanliness. Such persons should not use tobacco in any form while engaged in the preparation, handling or serving of food. Their hands should be washed and clean before beginning food preparation and after each visit to the toilet. Each person engaged in food handling should be certified by the health services director and by the local health department as suitable for food handling.

F. Accident prevention

Accidents are the number one killer of children and one of the major causes of illness and disability. Each period in a child's life and development brings with it potential hazards. It is important for all who work with and care for children to be aware of the principal accident hazards for each stage of growth and development, and to know what preventive measures to take to protect children from them. A major component of any child development program must be the education of each child to protect himself from dangers which he is capable of avoiding himself. In addition, there are many hazards from which children must be protected by physical barriers and by careful adult supervision. The following table lists some of the major accident hazards at various stages of development and some of the measures necessary to prevent such accidents. Such measures must be carefully carried out whenever children are in group care. In addition, all parents should repeatedly be made aware of those hazards to which their child is particularly susceptible at his particular age.

Age	**Characteristics**	**Accident hazards**	**Measures for prevention**
Birth to 4 mo	Eats, sleeps, cries	Bath-Scalding	Check bath water with elbow. Keep 1 hand on baby.
	Rolls off flat surfaces. Wriggles	Falls	Never turn back on baby who is on table or bed.
		Toys	Select toys that are too large to swallow, too tough to break with no sharp points or edge.
		Sharp objects	Keep pins and other sharp objects out of baby's reach.
		Smothering	Filmy plastics, harnesses, zippered bags and pillows can smother or strangle. A firm mattress and loose covering for baby are safest. Babies of this age need **complete** protection.
4-12 months	Grasps and moves more. Puts objects in his mouth	Play areas	Keep baby in a safe place near attendant. The floor, full-sized bed, and yard are unsafe without supervision.
		Bath	Check temperature of bath water with elbow. Keep baby out of reach of faucets. Don't leave him alone in bath for **any** reason.
		Toys	Large beads on strong cord and unbreakable, rounded toys of smooth wood or plastic are safe.
		Small Objects	Keep buttons, beads, and other small objects from baby's reach.
			Children of this age still need **full-time protection.**
		Falls	Don't turn your back on him when he is on an elevated surface.
		Burns	Place guards around registers and floor furnaces. Keep hot liquids, hot foods, and electric cords on irons, toasters and coffee pots out of baby's reach. Use sturdy and round-edged furniture: Avoid hot steam vaporizers.

Age	Characteristics	Accident hazards	Measures for prevention
1-2 yrs	Investigates, climbs, opens doors and drawers; takes things apart; likes to play	Gates, windows, doors	Keep doors leading to stairways, driveways and storage areas securely fastened. Put gates on stairways and porches. Keep screens locked or nailed.
		Play areas	Fence the play yard. Provide sturdy toys with no small removable parts and of unbreakable material. Electric cords to coffee pots, toasters, irons and radios should be kept out of reach.
		Water	**Never** leave child alone in tub, wading pool, or around open or frozen water.
		Poisons	Store all medicines and poisons in **locked cabinet.** Store cosmetics and household products, especially caustics, out of reach of child. Store kerosene and gasoline in metal cans and out of reach of children.
		Burns	Provide guards for wall heaters, registers and floor furnaces. Never leave children alone in the house. Close supervision is **needed** to protect child from accidents.
2-3 yrs	Fascinated by fire. Moves about constantly. Tries to do things alone. Imitates. Runs and is lightning fast. Is impatient with restraint	Traffic	Keep child away from street and driveway with strong fence and firm discipline.
		Water	Even shallow wading pools are unsafe unless carefully supervised.
		Toys	Large sturdy toys **without** sharp edges or small removable parts are safest.
		Burns	Keep matches and cigarette lighters out of reach of children. Teach children the danger of open flames. Never leave children alone in the house.
		Dangerous objects	Lock up medicine and household and garden poisons. Store dangerous tools, firearms, and garden equipment in a safe place out of reach of children. Teach safe ways of handling appropriate tools and kitchen equipment.
		Playmates	Accidents are more frequent when playmates are older—the 2 year old may be easily hurt by bats, hard balls, bicycles and rough play.
3-6 yrs	Explores the neighborhood, climbs, rides tricycles. Likes and plays rough games. Frequently out of sight of adults	Tools and equipment	Store in a safe place, out of reach and locked. Teach safe use of tools and kitchen equipment.
		Poisons and burns	Keep medicines and household products and matches locked up.
		Falls and injuries	Check the play area for attractive hazards such as old refrigerators, deep holes, trash heaps, construction and rickety buildings.

Age	Characteristics	Accident hazards	Measures for prevention
		Drowning	Teach the danger of water and start swimming instruction.
		Traffic	Let him learn rules and dangers of traffic. He must learn instant obedience where traffic is concerned.
6-12 yrs	Away from home many hours a week. Partcipates in active sports, is part of a group and will "try anything once". In traffic on foot and bicycle. Teaching must gradually replace supervision	Traffic	Drive safely as an example. Use safety belts. Teach pedestrian and bicycle safety rules. Don't allow play in the streets or alleys.
		Firearms	Store safely, handle carefully, teach proper use.
		Sports	Provide instruction, safe space and equipment, supervision of any competition.
		Drowning	Teach swimming and boating safety.

VI. Medical Policies

A. Requirements for admission to day care centers

Before a child is admitted to any type of group participation at a day care center, information about special health problems in the child or his family should be obtained by interview with the parent. When special problems are noted further information should be obtained from the clinic or physician who is caring for the child.

Before, or shortly after, admission into group activities, each child should have a comprehensive health evaluation and examination by a physician to further determine any conditions which may require special attention in protecting his health. A delay of several weeks may allow day care personnel to make observations which will help the physician in his evaluation. Routine immunizations, as recommended in this manual, must be instituted as soon as possible for all children participating in the program.

B. Illness among children

Each day care center must provide a place where a child who shows obvious signs of illness or fatigue can be separated from the other children and where he can rest or play quietly. Children who are ill will usually show it clearly by sleepiness, lethargy, irritability, fever or complaints. Prompt, appropriate consultation regarding such children should be obtained from the parent or from a physician or nurse.

The health services director of each center shall set policies regarding the exclusion of ill children from group activities. These policies must recognize the frequency of minor acute respiratory illness in children, the inconvenience and expense of alternative provisions for supervision of children who might be excluded from the center, and the actual dangers to other children if they are exposed to the *ill child*. Most of the acute infectious diseases of childhood are most catching during the period immediately before the child develops symptoms. In most cases, the entire group of children will have already been exposed to infection before the individual child develops symptoms. Therefore, excluding a child with frank signs of acute infectious disease will seldom keep other children in the group from being infected. Each decision will have to be made on an individual basis, considering the best interests of the child and the day care program, after consultation with the health services director who, in turn, may seek advice from public health officials.

At least one of the group of adults caring for any group of children should be competent in first aid procedures, and all staff members of the day care center should receive training in first aid and accident prevention.

C. Medicine and drugs

No medicines or drugs should be administered to any child except on prescription from a physician with permission of the parent. Any medicines or drugs stored in a day care center should be kept in locked cabinets out of reach of the children.

D. Emergency care

Children with true medical emergencies (examples are internal bleeding, penetrating and crushing injuries of the chest, unconscious state of more than short duration, heat stroke, severe or extensive burns, and snake bites or other poisonous bites) should be transported immediately to a hospital emergency room or other emergency treatment facility. Whatever personnel are most highly trained in first aid and emergency medical care should accompany the child. For such truly emergency conditions, no time should be wasted trying to obtain the services of a nurse or physician on the spot or in locating parents. The first action is to obtain emergency transportation to a medical care facility, the second action is to call the hospital or other treatment facility and alert it to the nature of the patient being sent. Then, and only then, should other interested parties be called. A plan indicating what transportation to use and where to take the child for care should be prepared and explained to the center staff.

Certain severe emergencies (including electrical shock, obstruction of the respiratory tract, drowning, massive external hemorrhage, internal poisoning, anaphylaxis, exposure to noxious fumes, skin or eye contact with corrosives, or neck or back injuries with possible spinal cord injury) require the immediate intervention of someone trained in first aid or emergency medical care. Whatever life saving measures are necessary should be applied by whoever is present and has a knowledge of first aid or emergency medical care. The child should then be transported promptly as above.

Fortunately, most illnesses and accidents do not require such prompt action to save life or limb. Emergencies such as dislocations and fractures, large lacerations, animal bites, burns, seizures, eye injuries, and acute high fevers can usually be handled temporarily by any responsible person who can make the patient comfortable and reassure the excited onlookers. If a nurse or physician can be available within 10 or 20 minutes, he should be called. There is time to notify the family and ask their wishes about a source of medical care. The physician or clinic responsible for the care of the child may be contacted for advice. If contacts with health personnel or with the child's parents are delayed, the child should be transported directly to a source of medical care.

Minor injuries, cuts, bruises and easily accessible foreign bodies in the eyes, may be handled on the spot by day care personnel. Matter-of-fact treatment of such minor disabilities can provide an excellent learning opportunity for the children and personnel in the day care program.

VII. Mental Health Services

The entire day care program should be considered as an integrated program of preventive and restorative mental health services. Recognizing each child and his parents as persons of worth, providing each child with an educational program keyed to his developmental level (whether "normal" or not) so that he may succeed, providing a warm and accepting human environment, finding worthwhile abilities with each child—all of these standard attributes of good day care are powerful mental health services. All of these services can take place without labeling any child as "abnormal", "disturbed", or "neurotic", and all can take place in any day care program with or without the help of professional specialists in mental health.

Even children who are judged by professionals to be deviant or disturbed can often make healthy adjustments in day care. No child should be excluded from day care for psychiatric reasons until he has been given a fair chance to try the program. Children with intellectual or physical handicaps which might exclude them from a standard classroom can usually be included in day care. The small size of the classes or groups and the high staff-to-child ratio often make it possible for such children to be given whatever extra care and attention they require, just as the "normal" children are given the attention which they require. For those few children who require an extraordinary amount of special individual care, extra volunteers might be recruited.

The program of parent involvement also has important mental health consequences. Making each parent a respected full partner in the development of his child can give that parent respect for himself and aspirations for his child that would be difficult to achieve in any other way.

Mothers who participate in the child development program can observe and learn skills and attitudes which teachers display in dealing with the behavior and intellectual growth of children and then can use these skills and attitudes in their own child rearing. By observing other children and by discussing mutual problems with teachers and other parents, a parent is often reassured to find that his child's behavior "problems" are shared by many other children. Relieved of fear and guilt, the parent may deal with the child's behavior more realistically and successfully. When the day care staff helps parents with realistic problems such as housing, employment and finance, parents are often able to devote more attention and effort to child rearing activities which they had previously been forced to neglect.

When a psychiatrist or psychologist is available as a consultant, his main role is to help the staff to achieve a successful day care experience with each child and a supportive and enhancing role with each parent. The professional's special knowledge of certain aspects of child development may be useful in helping teachers and aides to interpret the behavior of children and to modify undesirable behavior. His wide experience with emotionally ill children and parents enables him to help the staff to be more comfortable and helpful with such "difficult" parents and children. His special talents in observing and evaluating interpersonal relationships may make him particularly adept in matching certain children and parents with those particular staff members who can be of most help.

Perhaps most importantly, he can give his professional "endorsement" to the useful and successful techniques used spontaneously by the day care staff, reassuring them that their actions really do meet the needs of the family and encouraging them to further develop methods which they themselves find successful.

At the beginning of a program, many children may have behavior or learning problems which appear to require individual psychological or psychiatric diagnosis or treatment. As these children and their parents become involved in the program, most of them will make progressively more "normal" adjustments. Individual professional diagnostic studies, which are costly and scarce in every community, might be reserved for those children who fail to show progress in the child development program and for those children who, despite progress, will clearly be unsuitable for normal school placement at the termination of the program.

VIII. Speech, Hearing and Language Services

Helping children to develop a richer pattern of language is a central goal of day care. The educational program should be a strong source of language stimulation, in which many children will learn to improve poorly developed speech and language patterns. It is also an excellent place to discover, through teachers' observations (aided or advised by specialists in speech and hearing, medicine and psychology) those children whose speech and language patterns reflect a defect, either in the hearing or speech apparatus or in the central nervous system.

A large proportion of normal young children have unclear speech due to immature articulation patterns which will mature and develop without special attention. In addition, a large number of day care children will have speech and language patterns which conform to subcultural pronunciations and usages rather than to standard American English. Experience in day care will help many such children to master the standard American English language pattern as well as the language of their subculture.

The hearing screening tests, the developmental observations and the medical examination will call attention to the relatively small group of children whose speech and language is impaired by structural abnormalities of the ears or of the mouth, tongue and pharynx and to those who may have a neurological defect interfering with speech or language. Teachers' observations can be extremely useful in focusing special attention on those children with abnormal speech patterns.

Whenever they are available, personnel with special professional training in language, hearing and speech should be consulted in planning and carrying out the day care program. Because of their special training and experience, speech and hearing specialists (speech pathologists, audiologists, speech therapists) can help teachers recognize which abnormal speech patterns represent structural difficulties, which are cultural, which may represent neurologic impairments, and which represent the self-correcting "developmental" immaturities. Because of their knowledge of the normal progression of articulation patterns they can advise both teachers and parents about what to expect from individual students, and counsel against unrealistic expectations and demands. Speech and hearing specialists may have special knowledge of methods of testing specific listening skills (auditory perception) and of methods of improving these skills both for individual children with handicaps and for normal pre-school children. The skills that speech therapists use to develop language skills in individual handicapped children can often be translated for use in the classroom and the home and may be applicable for both normal and abnormal children.

part three
THE DENTAL PROGRAM

I. Goals of the Dental Program

A. To improve each child's present dental health by finding and treating all existing dental defects.

B. To ensure a child's future dental health by:

1. Providing preventive services including:
    - a. Prophylaxis (cleaning)
    - b. Fluoride treatment
    - c. Dental health education for children and parents.
    - d. Introduction of the child to a dentist who will be responsible for his continuing dental care.
2. Improving the dental health of all members of the child's family through:
    - a. Calling attention to family dental health needs.
    - b. Introducing the entire family to dental care services and to sources of funds to pay for these services.
3. Improving the dental health of the community in which the children lives through:
    - a. Increasing the awareness and concern of dentists, and of the general public with the dental health problems of poor children.
    - b. Stimulating and providing new resources for dental health care.
    - c. Making existing dental health resources more responsive to the needs of the poor.
    - d. Demonstrating new skills, techniques and patterns of care.

II. The Importance of Dental Care

Dental services play a central role in a comprehensive health program. Dental decay represents the most common single health defect found in pre-school and school age children. The majority of children entering day care have had no dental care in the past and show the accumulated effects of such neglect.

Many families neglect dental care in young children with the mistaken idea that the "baby teeth" are unimportant because they soon will fall out. Actually, premature loss of the primary teeth due to decay or injury can have permanent effects on the development of a child's dental and facial structures. During the growth period, the primary teeth assist in the correct growth of the jaw and maintain the correct amount of space for the permanent teeth.

The lack of adequate intact teeth for chewing may lead to poor nutritional habits. Infections due to poor dental health are often extremely painful and they can represent a threat to health and even to the life of children with heart disease or other special medical problems.

Early dental care will not only prevent such long-term results, but is usually much easier, much less expensive, and much less painful than the type of dental care which is necessary after decay has progressed.

III. Content of the Dental Program

A. Services by the day care center

1. **Fluoride:** All children should receive a small amount of fluoride each day. If the family water supply is not fluoridated, fluoride drops should be prescribed to be administered by the parent or at the center.
2. **Dental Health Education:** Discussed along with health education on page 31 of this manual.
3. **Introducing the child and his family to a dentist who will be responsible for his continuing care:** The program should be planned in such a way that the dentist providing examinations for the day care child can also provide all necessary treatment, repeat examinations in the future and, so far as possible, care for all members of the family. Establishing a family's eligi-

bility for Medicaid or other financing programs will enable the child and his family to get care in the future.

B. Services in the dental office or clinic

1. **Frequency of visits:** The first visit to the dentist should be made during the 3rd year of life and should consist of the child accompanying and watching while the parent or a brother or sister receives dental care. The first visit for actual dental examination, fluoride application and treatment should be made shortly after the third birthday. Yearly or more frequent visits should be made thereafter.

2. **Services to be included at each visit include:**

   a. Oral examination and treatment planning, including diagnostic radiographs where necessary.

   b. Dental prophylaxis and application of topical flouride. (Topical fluoride applications are considered desirable even where there is fluoridated water. Topical fluoride produces an additional reduction in the incidence of dental decay.)

   c. Restoration of decayed permanent and primary teeth with silver amalgam, silicate cement, plastic materials, or stainless steel crowns.

   d. Pulp therapy for permanent and primary teeth.

   e. Extractions of non-restorable teeth.

   f. Any other services required for the relief of pain of infection.

A field trip to the dentist's office or a classroom demonstration of what the dentist will do might serve as excellent preparation for a group of children scheduled to be examined by a dentist. Parents, who themselves may have had no dental care or may be fearful of it, might be included in such an exercise.

One dental society donated an old dental chair to the program. The children played with the chair for hours. When the time came for dental visits, the children were quite familiar with the dental chair and were eager participants in the dental program.

Toothbrushing should be taught as a desirable social habit. Toothbrushes and toothpaste should be furnished to each child. By providing one toothbrush for home and one for the classroom, the toothbrushing habit started at school may be also applied by the child at home. The toothbrushing habit has often proved contagious to other members of the family. Children are usually more impressed by the awareness of "how good toothbrushing makes my mouth feel" than by dire warnings of the health consequences of not brushing the teeth. The teaching of toothbrushing can be used to develop vocabulary, manual skills and rhythms. Toothbrushing should be "a treat, not a treatment."

The nutrition program will assure a food service and nutrition education program that will be of benefit to the dental health of the children as well as to other aspects of their development.

IV. Administrative Considerations

The dental program should utilize the principles of planning, utilization of resources, follow-up, and budgeting that are discussed in Part I of this manual.

A. The dental director

In smaller programs the health director may, in consultation with dental practitioners, plan and administer the dental program. Larger programs may appoint a dental services director to plan and administer the dental program, to maintain liaison with the dental health professions and to assure that all children receive the necessary care in as expeditious, economical, pleasant and professionally competent way as is possible.

The dental director of the day care program might be selected from: 1) a public health dentist or pedodontist with experience in administration of a group dental health program; 2) a qualified dentist with interest in children and good working relationships with other dentists in the community; 3) a public health professional with experience in health care administration; 4) a dental hygienist with public health training or experience.

B. Patterns of organization of services

There are three general mechanisms that have been used to organize dental services for groups of pre-school and school age children; 1) contracting with individual dentists; 2) contracting with an organized dental clinic or a school of public health dental program; 3) contracting with a dental service corporation.

1. Contracting with individual dentists will be the most practical method for many communities, especially the smaller ones. Dentists should be asked to indicate their willingness to participate in the program. Children who have a regular dentist should be urged to see him. Children who do not have a regular dentist should be assigned to participating dentists, making allowances for convenience of transportation and the parents' preferences. A fee schedule, either negotiated in advance or based on usual and customary charges, as well as billing and payment procedures, must be agreed upon for those children whose care will be paid for by the day care program. Participating dentists must understand that children are entitled to high quality care and that the children and their parents are entitled to polite, considerate and responsible service.

2. The dental program may be contracted to a public or university dental clinic or to a health department or school sponsored dental health program. Such organizations can then employ and pay the dentists and assistants, perform the record keeping and accounting and be responsible for follow-up. Such an arrangement is especially desirable in communities in which most of the day care children will normally attend such clinics when they reach school age. The contract with such an agency should clearly state the type of service expected from the agency. When an already existing public program is utilized, the day care program should be certain that its standards of professional care and of providing for the comfort and dignity of patients are high.

3. A dental service corporation is a non-profit organization formed by a state dental association to administer programs of dental care. Such a corporation can contract with practicing dentists to provide high quality dental care at a reasonable cost. The corporation performs all administrative functions, including bookkeeping, billing and quality control. The dental service corporation makes a charge (currently between 8 and 15%) for administering the program. This administrative charge is usually less than it would cost a day care program to administer its own dental care program. Dental service corporations are particularly effective in providing care for relatively large groups of children (more than 100), especially when such children are dispersed over a wide geographic area or in a large metropolitan area.

C. Communities with inadequate facilities

In some communities where dental facilities are inadequate to meet the children's needs, special arrangements must be made. Often, transporting children to dental services in a nearby community will be the most practical solution. Mobile clinics, mounted on trailers or trucks, can often provide excellent facilities for dental care. If an organization in the state or region owns such clinics, the day care program might contract with that organization to make the clinics available.

Portable dental equipment, which can easily be moved from place to place, provides a versatile method of giving dental services to children in groups spread over a wide area. Such equipment can be set up and utilized with little cost or difficulty in any space with accessible electricity and water. The initial cost of the equipment is not as high as that of a fixed or mobile clinic, it is not essential to keep the equipment utilized fully on a twelve month basis, and there is no permanent commitment of space. Lists of equipment and supplies, as well as cost estimates are available from the Dental Care Branch, Division of Dental Health, United States Public Health Service, 8120 Woodmont Avenue, Bethesda, Maryland 20014.

D. Estimating cost of dental care

The cost of dental care will vary widely from community to community. The presence of fluoridated drinking water will decrease markedly the amount of dental disease present in children. Communities will differ in the presence of public dental care facilities and in the availability of funds from welfare departments, health departments, or schools for dental care of children.

Consultation with dentists in the community and a review of the previous year's day care or school dental health records will allow an estimate of the average level of dental health needs. The cost of providing dental care to meet these needs can usually be estimated best by knowing the number of surfaces which show decay. A dental society or dental service corporation can give an estimate of the usual charges of dentists to perform the average amount of work required per child. In addition, the cost of the examinations, charting, prophylaxis and fluoride treatment which will be required by every child should be estimated.

Experience in many programs has indicated that a budget based on the cost of examination, topical fluoride treatment, plus six 1 surface fillings per child is usually adequate for 5 year old children in a community that lacks fluoridated water. About half of that amount is usually adequate when all children have been exposed to a fluoridated water supply. The cost is about 50% lower for 3 year old children and 50% higher for 7 year old children who have not had previous dental care. Once the accumulated needs have been corrected, yearly "upkeep" is considerably less expensive.

APPENDIX A — SUGGESTED INDIVIDUAL HEALTH RECORDS

The use of these forms is entirely optional. Copies may be reproduced from the samples bound in the volume, and any desired modifications may be made.

Instructions for Use of the Forms

1. **Cumulative Child Health Record**

   This form is designed as a permanent, frequently updated, cumulative record of important information about a child's health care. It is completed only once for each child, then updated as necessary. Most of the information can be obtained from parents and from past records by non-physician personnel before the child is seen by a physician.

2. **Periodic Health Evaluation Record**

   There are two versions of this form, one for the infant under age 3, the other for children age 3 and older. It should be completed each time a child has a complete health evaluation. Many of the questions and measurements can be administered by non-physician personnel. The problem list and recommendations at the end of the form serve as the basis for follow-up evaluations and treatment.

3. **Health Observation Record**

   This form is designed to give the teacher or caretaker guidance in observing health related problems of children and in recording and transmitting these observations to the physician. The form should be completed shortly before the scheduled physician's examination but after the teacher has had at least several days or weeks to observe the child. Results may be transcribed by an aide onto the Periodic Health Evaluation Record, especially if the report is normal or nearly normal. Abnormal reports may become part of the permanent record.

4. **Dental Health Record**

   This is designed so that it can be used as a permanent cumulative record, a dentist's report, or his bill for services. The columns at the right can be used for local administrative date and codes.

CUMULATIVE CHILD HEALTH RECORD

NAME OF CHILD (LAST, FIRST, MIDDLE)

IDENTIFICATION OF PROGRAM OR AGENCY

HOME ADDRESS (USE PENCIL AND KEEP CURRENT)

TELEPHONE NO.

DATE OF BIRTH

PLACE OF BIRTH (CITY AND STATE)

NAME OF MOTHER (LAST, FIRST, MIDDLE)

YEAR OF BIRTH

SCHOOL GRADE COMPLETED

OCCUPATION OF MOTHER

WHAT LANGUAGE IS USUALLY SPOKEN IN THE HOME?
☐ ENGLISH ☐ OTHER

NAME OF FATHER (LAST, FIRST, MIDDLE)

YEAR OF BIRTH

SCHOOL GRADE COMPLETED

USUAL OCCUPATION OF FATHER

NO. WEEKS UNEMPLOYED IN PAST YEAR

EMPLOYER

HEAD OF HOUSEHOLD IS ☐ FATHER ☐ MOTHER
☐ OTHER (SPECIFY)

DURING THE DAY, THIS CHILD IS USUALLY CARED FOR BY:
☐ MOTHER ☐ OTHER PERSON (GIVE NAME)

FAMILY AND HOUSEHOLD

NAME	DATE OF BIRTH	LIVES WITH PATIENT		HEALTH PROBLEMS AND PROGRESS
		YES	NO	
FATHER				
MOTHER				
CHILDREN IN ORDER OF BIRTH (LIST ALL PREGNANCIES INCLUDING PATIENT) 1.				
2.				
3.				
4.				
5.				
6.				
OTHERS IN HOUSEHOLD (SHOW RELATIONSHIP) 1.				
2.				
3.				
4.				

ARE THERE ANY DISEASES WHICH "RUN IN THE FAMILY"?
☐ NO ☐ YES *(DESCRIBE)*

IN CASE OF AN EMERGENCY
PARENT OR GUARDIAN MAY BE CONTACTED AT: ☐ HOME
☐ OTHER

TELEPHONE NO.

IF AN ILLNESS OR INJURY REQUIRES A DOCTOR'S ATTENTION, CALL (NAME OF DOCTOR OR CLINIC)

TELEPHONE NO.

IF PARENT CANNOT BE REACHED, CONTACT:
☐ NEIGHBOR ☐ RELATIVE ☐ FRIEND
NAME

TELEPHONE NO.

THIS FAMILY IS ELIGIBLE FOR MEDICAL PAYMENTS UNDER
☐ BLUE CROSS - BLUE SHIELD ☐ PRIVATE HEALTH INS.
☐ PUBLIC FUNDS (TITLE XIX, WELFARE, CRIPPLED CHILDREN)
☐ NONE

Cumulative Child Health Record page 2

PREGNANCY AND BIRTH HISTORY

PLACE OF DELIVERY (NAME OF HOSPITAL)

DELIVERED BY

PREVIOUS PREGNANCIES

TOTAL NO. | MISCARRIAGES | STILL BIRTHS

MOTHER'S HEALTH DURING THIS PREGNANCY ☐ EXCELLENT ☐ OTHER *(DESCRIBE)*

DELIVERY ☐ NORMAL SPONTANEOUS VERTEX ☐ OTHER *(DESCRIBE)*

BABY'S BIRTHWEIGHT

DID BABY ARRIVE ☐ ON TIME ☐ EARLY BY _____ WEEKS ☐ LATE BY _____ WEEKS

ILLNESS OR COMPLICATION IN NEWBORN PERIOD ☐ NONE ☐ OTHER *(DESCRIBE)*

ILLNESS HISTORY

HAS CHILD HAD OR DOES HE HAVE:	YES	NO	DATE	DESCRIBE DETAILS OF ANY ITEM CHECKED "YES"
MEASLES (RUBEOLA)				
MUMPS				
CHICKEN POX				
RUBELLA (3-DAY OR GERMAN MEASLES)				
WHOOPING COUGH				
SEIZURES, FITS, OR SPELLS				
TONSILLECTOMY				
ANY HOSPITALIZATION				
EXPOSURE TO TUBERCULOSIS OR PERSON WITH CHRONIC COUGH				
FREQUENT BEDWETTING (AFTER AGE 4)				
ANY KNOWN CHRONIC DISEASE OR HANDICAPPING CONDITION				
OTHER SERIOUS ILLNESS				

DEVELOPMENTAL HISTORY

COMPARED WITH HIS BROTHERS AND SISTERS AND WITH OTHER CHILDREN HIS AGE, HAS THIS CHILD BEEN PARTICULARLY FAST OR SLOW IN:	DATE			DATE			DATE			DATE			DATE		
	FAST	AVE.	SLOW	FAST	AVE.	SLOW	FAST	AVE.	SLOW	FAST	AVE.	SLOW	FAST	AVE.	SLOW
WALKING, RUNNING, CLIMBING															
TALKING															
PLAYING WITH TOYS, COLORING, DRAWING															
UNDERSTANDING WHAT IS SAID TO HIM															
GETTING ALONG WITH CHILDREN HIS OWN AGE															

IS THIS CHILD CONSIDERED BY HIS MOTHER OR BY OTHERS TO BE PARTICULARLY:	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
"DIFFICULT" OR "DIFFERENT"										
HYPERACTIVE										
CLUMSY										

COMMENTS:

Cumulative Child Health Record page 3

IMMUNIZATION RECORD (NOTE DATE AND ANY ADVERSE REACTIONS)

DIPHTHERIA, PERTUSSIS, TETANUS, (DPT)	ORIGINAL SERIES	#1	#2		#3	
	BOOSTERS (DT AFTER AGE 6)	#1	#2	#3	#4	#5
POLIO	FOR EACH IMMUNIZATION, INDICATE TYPE OF VACCINE (OPV-T =TRIVALENT ORAL; OPV-I=TYPE 1 ORAL; S=SALK (ETC)					
	#1	#2	#3	#4	#5	#6
MEASLES	HAD NATURAL INFECTION (NEEDS NO IMMUNIZATION)	LIVE VACCINE (SWARTZ OR EDMONSTON)	KILLED VACCINE #1	#2	#3	
SMALL POX	1ST VACCINATION (DATE)	PRIMARY TAKE ? ☐ YES ☐ NO	REVACCINATION #1 (DATE)	#1 TAKE ? ☐ YES ☐ NO	#2 (DATE)	#2 TAKE ? ☐ YES ☐ NO
MUMPS						
RUBELLA						
OTHER (IMMUNIZATIONS)						

SCREENING TESTS RECORD (ENTER DETAILS AND FOLLOW-UP OF ABNORMAL TESTS IN PROGRESS NOTES.)

TUBERCULIN TESTS	DATE									
	RESULT									

VISION SCREENING	DATE	TYPE OF TEST	ACUITY (CHECK)			FUSION	COMMENTS
			PASS	FAIL	NOT TESTABLE		

AUDITORY SCREENING (INCLUDE AUDIOGRAM IN PROGRESS NOTES.)	DATE	TYPE OF TEST	PASS	FAIL	NOT TESTABLE	COMMENTS

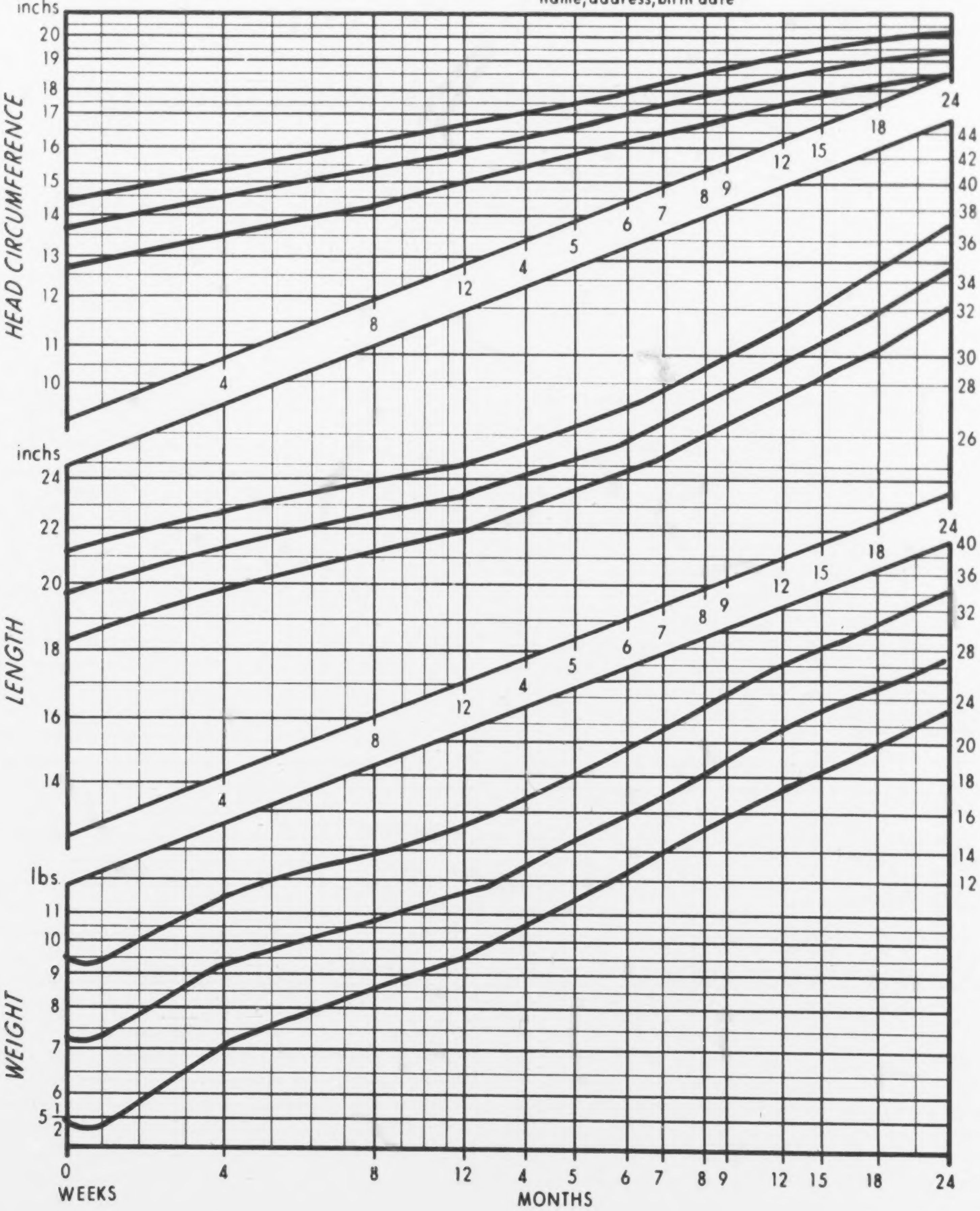
HEMATOCRIT OR HEMOGLOBIN	DATE	RESULT	URINALYSIS OR URINE CULTURE	DATE	RESULT

OTHER SCREENING OR LABORATORY TESTS (INCLUDE PSYCHOMETRIC, IF AVAILABLE)

DATE	TYPE OF TEST	RESULT

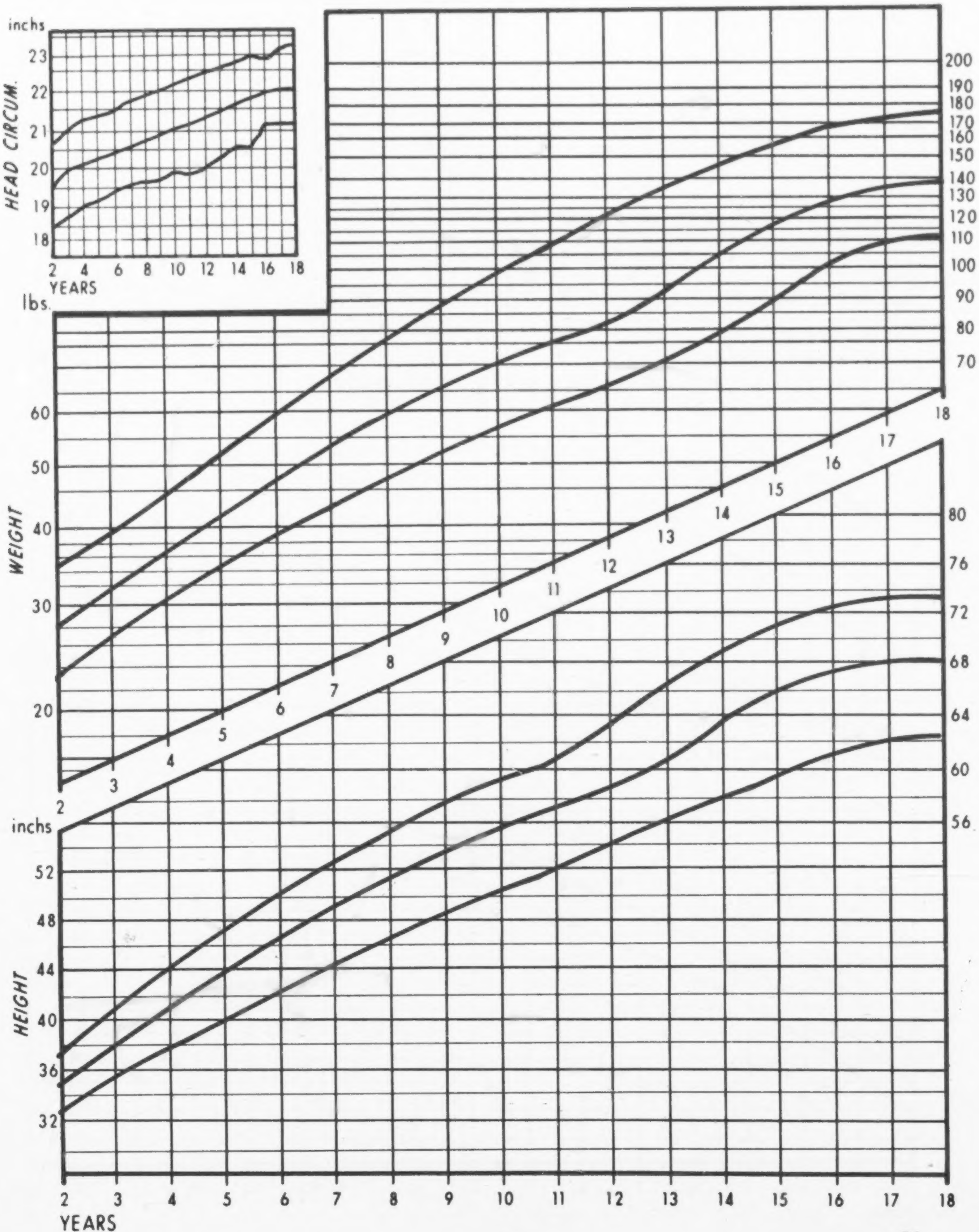
GROWTH CHART - Boys and Girls 0-2 YRS.

name, address, birth date

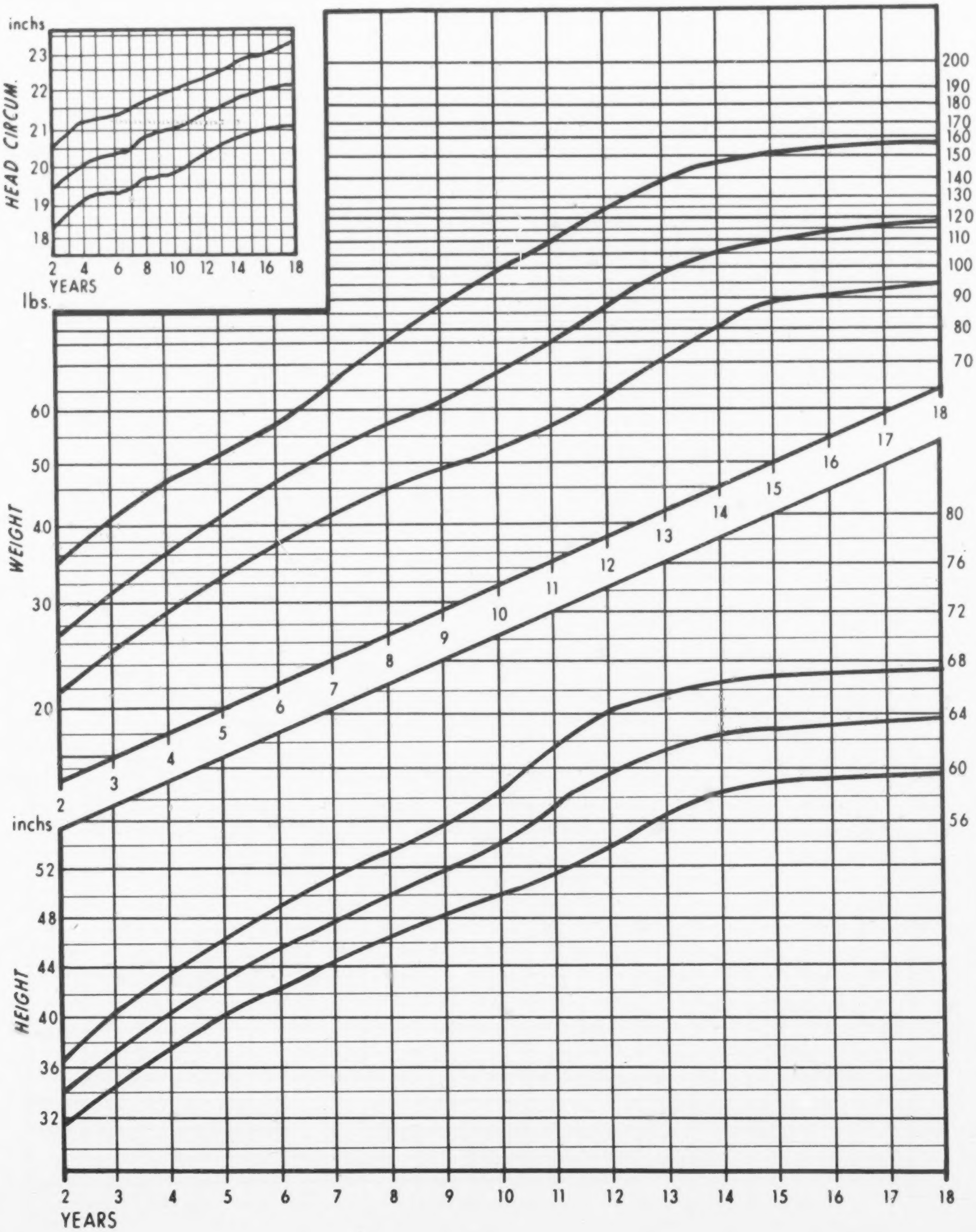


━━ : 3rd, 50th, 97th percentiles. Values based on data of H.C. Stuart in: Harper, P.A. *Preventive Pediatrics.* New York, Appleton-Century-Crofts, 1962.

GROWTH CHART - BOYS 2-18 YRS.



GROWTH CHART - GIRLS 2-18 YRS.



PERIODIC HEALTH EVALUATION RECORD
(INFANT 0-3 YEARS)

NAME AND ADDRESS

IDENTIFICATION OF PROGRAM OR AGENCY

DATE OF THIS EVALUATION

LOCATION OF THIS EVALUATION

☐ THIS IS FIRST EVALUATION *(Complete separate Cumalative Record*
☐ A PREVIOUS EVALUATION HAS BEEN DONE

AGE

WEIGHT

LENGTH

HEAD CIRCUMFERENCE

ILLNESS OR INJURY SINCE LAST EVALUATION

FEEDING *(formula, solids, vitamins, appetite, problems)*

SLEEP *(pattern, naps, problems)*

ELIMINATION *(urinary stream, character of stools, straining)*

FAMILY EVENTS *(illness, moves, births, job changes, separations, etc.)*

HEALTH PROBLEMS NOTED BY PARENT OR CARETAKER

PHYSICAL EXAMINATION

DOES THE EXAMINATION SHOW ANY ABNORMALITY IN:	ABNOR-MAL	NOR-MAL	NOT EXAM-INED	DESCRIBE FULL ANY ABNORMAL FINDING
GENERAL APPEARANCE, POSTURE				
SKIN				
EARS, HEARING				
EYES, VISION				
NOSE, MOUTH, PHARYNX, TEETH				
LUNGS				
HEART				
ABDOMEN, HEANIAS				
GENITALIA				
BONES, JOINTS, MUSCLES-HIP ABD.				
NEUROLOGIC				
OTHER				

Periodic Health Evaluation Record (Infant 0-3 years) Page 2

DEVELOPMENTAL SCREENING EXAMINATION

	NORMAL FOR AGE	ABNORMAL	REMARKS
GROSS MOTOR FUNCTIONS			
ADAPTIVE-MANIPULATIVE			
LANGUAGE			
PERSONAL SOCIAL			

SCREENING TESTS

HEMOGLOBIN	HEMATOCRIT	TUBERCULIN	PKU	BACTERIURIA	VISION	HEARING	OTHER

REMARKS

SUMMARY OF FINDINGS, TREATMENTS AND RECOMMENDATIONS

PROBLEM OR FINDING	ADVICE OR TREATMENT GIVEN	RECOMMENDATION FOR FURTHER EVALUATION TREATMENT, SOCIAL OR EDUCATIONAL SERVICE

ANTICIPATORY GUIDANCE GIVEN

IMMUNIZATIONS GIVEN	RETURN APPOINTMENT DATE	SIGNATURE

PERIODIC HEALTH EVALUATION RECORD
(PRESCHOOL AND SCHOOL AGE CHILD)

NAME OF CHILD (LAST, FIRST, MIDDLE)

IDENTIFICATION OF PROGRAM OR AGENCY

DATE OF THIS EVALUATION

LOCATION OF THIS EVALUATION

☐ THIS IS FIRST EVALUATION (COMPLETE SEPARATE FORM CAP HS 30)

☐ A HISTORY AND EXAMINATION WAS PERFORMED
(DATE) (PLACE)

ILLNESS, INJURIES, HOSPITALIZATIONS SINCE LAST EVALUATION

SCREENING TEST SINCE LAST EXAMINATION

	NOT DONE	NORMAL	ABNORMAL	NOT TESTABLE	REMARKS
VISION					
HEARING					
TUBERCULIN					
ANEMIA					
URINALYSIS					
OTHER					

PROGRESS ☐ PROGRESSING NORMALLY WITH AGE GROUP ☐ OTHER (EXPLAIN)

OBSERVATIONS ☐ NO APPARENT DIFFICULTY ☐ SLOW OR POOR READER
☐ HYPERACTIVE OR IMPULSIVE BEHAVIOR ☐ EPISODIC CHANGES IN STATE OF CONSCIOUSNESS, SEIZURES
☐ OTHER (EXPLAIN)

CHANGES IN HOME OR FAMILY SETTING SINCE LAST EXAMINATION (MOVES, NEW SIBLINGS, DIVORCE, UNEMPLOYMENT ETC.)
☐ NONE ☐ OTHER (EXPLAIN)

HEALTH PROBLEMS NOTED BY PARENT OR CHILD

Periodic Health Evaluation Record (Preschool and School Age) page 2

PHYSICAL EXAMINATION

HEIGHT		WEIGHT		AGE		BLOOD PRESSURE
IN. OR CM.	PERCENTILE	LB. OR KG.	PERCENTILE	YEARS	MONTHS	

DOES THE EXAMINATION REVEAL ANY ABNORMALITY IN:	ABNORMAL	NORMAL	NOT EXAMINED	DESCRIBE FULLY ANY ABNORMAL FINDINGS
GENERAL APPEARANCE, POSTURE, GAIT				
SPEECH				
BEHAVIOR DURING EXAMINATION				
SKIN				
EYES: EXTERNALS				
OPTIC FUNDI				
EARS: EXTERNAL AND CANALS				
TYMPANIC MEMBRANES				
NOSE, MOUTH, PHARYNX				
TEETH				
HEART				
LUNGS				
ABDOMEN (INCLUDE HERNIAS)				
GENITALIA				
BONES, JOINTS, MUSCLES				
NEUROLOGICAL EXAMINATION				
OTHER				

DEVELOPMENTAL SCREENING EXAMINATION

	NORMAL FOR AGE	OTHER (EXPLAIN)	REMARKS
GROSS MOTOR FUNCTION			
FINE MOTOR AND MANIPULATIVE FUNCTIONS			
ADAPTIVE FUNCTION			
LANGUAGE FUNCTION			
PERSONAL-SOCIAL FUNCTION			

SUMMARY OF FINDINGS, TREATMENTS, AND RECOMMENDATIONS

ABNORMAL FINDINGS	ADVICE AND TREATMENT GIVEN	RECOMMENDATIONS FOR FURTHER EVALUATION, TREATMENT OR SOCIAL OR EDUCATIONAL SERVICES.

SIGNATURE OF PHYSICIAN

DATE

DAY CARE STAFF
HEALTH OBSERVATIONS

NAME OF CHILD (LAST, FIRST, MIDDLE)

IDENTIFICATION OF PROGRAM OR AGENCY

NAME OF RECORDER

DATE FORM COMPLETED

DOES THIS CHILD COMPLAIN OF OR DEMOSTRATE ANY OF THE FOLLOWING MORE SEVERELY OR MORE FREQUENTLY THAN MOST OF HIS PEERS?

	YES	NO		YES	NO
TEMPER TANTRUMS					
IMPULSIVE OR EXPLOSIVE BEHAVIOR			SKIN RASH		
HYPERACTIVITY OR RESTLESSNESS			FREQUENT SCRATCHING		
WITHDRAWN			SORES ON SKIN		
INACTIVE OR SLUGGISH			PALE OR SALLOW SKIN		
SLEEPY OR LETHARGIC					
TICS OR GRIMACING			CONTINUOUS RUNNY NOSE		
			FREQUENT NOSE PICKING OR RUBBING		
CLUMSY			COUGH		
LIMP OR ABNORMAL GAIT			WHEEZING		
POOR COORDINATION			SHORT OF BREATH WITH EXERCISE		
POOR WRITING OR DRAWING					
CONVULSIONS, FITS, OR SPELLS			OVERWEIGHT		
SPELLS OF INATTENTION OR STARING INTO SPACE			STOMACH ACHES		
			VOMITING		
HEADACHES			FREQUENT URINATION		
			WETS PANTS		
			SOILS SELF WITH BOWEL MOVEMENTS		
EYES CROSSED OR OUT					
POOR VISION					
RED, RUNNY OR ITCHING EYES					
POOR HEARING					
DISCHARGE OR RUNNING FROM EAR					
UNCLEAR SPEECH					

WHAT IS YOUR OPINION OF THIS CHILD'S HEALTH?

☐ PERFECTLY HEALTHY ☐ SPECIFIC PROBLEM(S) AS NOTED BUT GENERALLY HEALTHY

☐ NOT IN GOOD HEALTH

FURTHER OBSERVATIONS AND EXPLANATION OF ITEMS MARKED "YES" ABOVE

DENTAL HEALTH RECORD
(PRESCHOOL AND SCHOOL AGE CHILD)

NAME OF CHILD (LAST, FIRST, MIDDLE)

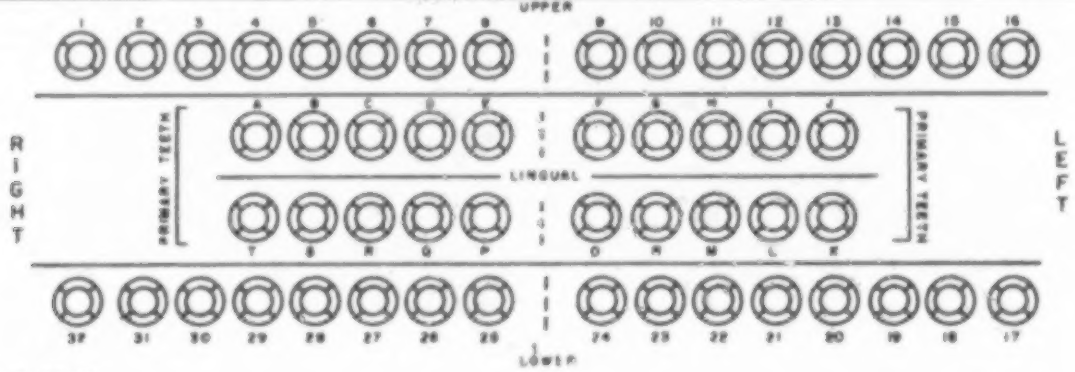
IDENTIFICATION OF PROGRAM OR AGENCY

PATIENT'S ADDRESS (USE PENCIL AND KEEP CURRENT)

BIRTHPLACE

SEX

HAS THE CHILD HAD PREVIOUS DENTAL CARE? ☐ NO ☐ YES


UPPER
1
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10
11
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13
14
15
16
A
B
C
D
E
F
G
H
I
J
RIGHT
LEFT
PRIMARY TEETH
LINGUAL
T
S
R
Q
P
O
N
M
L
K
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
LOWER

DIAGNOSTIC CODE

● SOLID AREA INDICATES FILLING PRESENT

▨ ZEBRA STRIPES INDICATE DECAY PRESENT

⌽ VERTICLE LINE INDICATES TO BE EXTRACTED

⊗ "X" INDICATES MISSING TOOTH

SERVICES PROVIDED: (PLEASE RECORD EACH TREATMENT ON SEPARATE LINE)

								FOR ADMINISTRATIVE USE ONLY	
MONTH	DAY	YEAR	TOOTH #	SURFACE *	MATERIAL *	DESCRIPTION OF WORK	FEE	CODE	AGENCY
					TOTAL				

* TREATMENT CODE: SURFACES: M = MESIAL, D = DISTAL, O = OCCLUSAL, L = LINGUAL, I = INCISAL, B = BUCCAL OR LABIAL
MATERIALS: A = AMALGAM, S = SILICATE, P = ACRYLIC, C = STEEL CROWN, O = OTHER

IMPORTANT: ________ CHECK IF TREATMENT CONTINUED ON ADDITIONAL RECORD.
________ CHECK IF ALL WORK FOR THIS CHILD HAS BEEN COMPLETED.
________ CHECK IF TREATMENT DISCONTINUED.

REMARKS:

I HEREBY CERTIFY THAT THE SERVICES LISTED ABOVE HAVE BEEN PERFORMED

DENTIST'S SIGNATURE AND ADDRESS

DENTIST'S LICENSE NO.

INTRODUCTION

The Day Care Health Program provides an excellent opportunity to improve the health of the children enrolled in the program. Three important and difficult tasks must be performed in carrying out the health program:

1. Being sure that *every* child receives the routine tests, health evaluations and immunizations.
2. Being sure that *every* child who is found to have a health problem receives the necessary evaluation and treatment.
3. Being sure that *every* child is introduced to a physician who can be responsible for his future care.

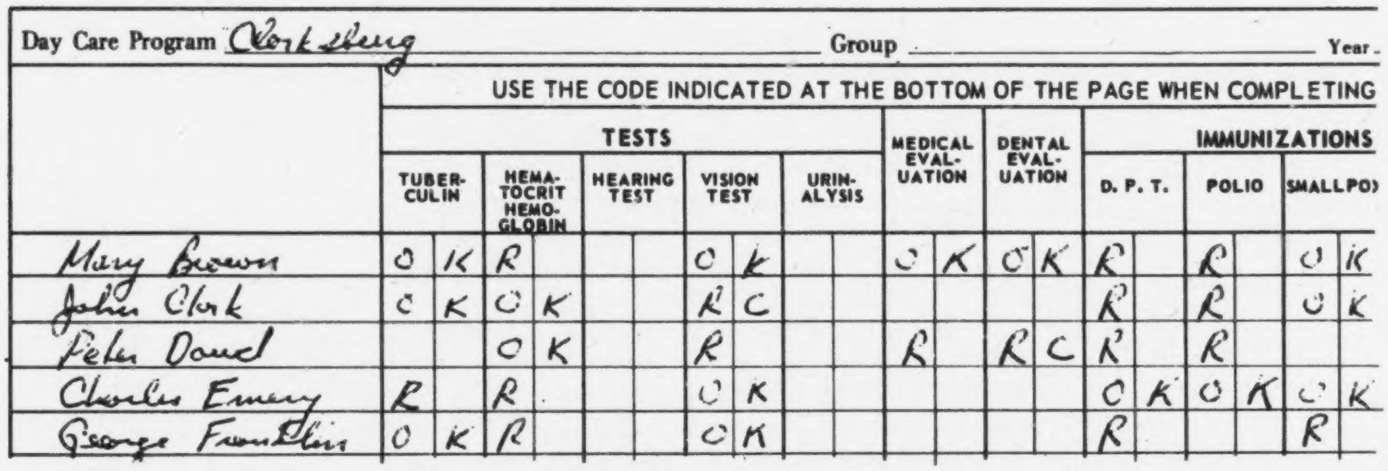
The procedure and forms of this system are designed to make these tasks easier. Both the forms and the procedure may be modified in any way to meet local needs. Or some different system can be used, but some system of administrative records will be necessary if the health program is to be successful.

By using the Health Bookkeeping System, the Health Services director can be certain:

- That previous health care is considered in planning the health program for each child.
- That the health program for each child is scheduled in a logical sequence.
- That any examinations, tests, treatments, etc., which have not yet been completed are immediately noted so that action can be taken.
- That each child, if possible, is introduced to a physician or clinic that can be responsible for his future health care, and has funds to pay for such care.
- That adequate data are available to assess periodically the current status and progress of the Health Program.
- That adequate data are available to evaluate and report the final accomplishments of the Health Program.

HOW THE HEALTH BOOKKEEPING SYSTEM WORKS

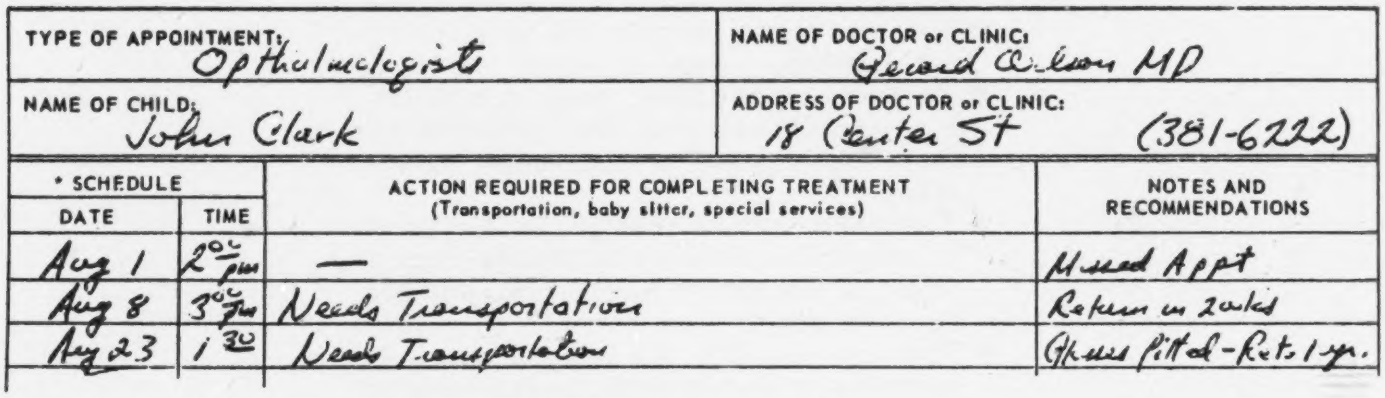
1 *The Health Program Control Sheet* lists each child in the program. As each item of the health program is completed for each child, the control sheet is checked off in a way that shows clearly what has been done and what remains to be done.



Day Care Program Clarksburg Group ________ Year

	USE THE CODE INDICATED AT THE BOTTOM OF THE PAGE WHEN COMPLETING																			
	TESTS										MEDICAL EVALUATION		DENTAL EVALUATION		IMMUNIZATIONS					
	TUBERCULIN		HEMATOCRIT HEMOGLOBIN		HEARING TEST		VISION TEST		URINALYSIS						D. P. T.		POLIO		SMALLPO	
Mary Brown	O	K	R				O	K			O	K	O	K	R		R		O	K
John Clark	C	K	O	K			R	C							R		R		O	K
Peter Doud			O	K			R				R		R	C	R		R			
Charles Emery	R		R				O	K							O	K	O	K	O	K
George Franklin	O	K	R				O	K							R				R	

2 Whenever a child needs an appointment for further evaluation or for medical or dental treatment, a *Referral and Treatment Appointment Record* card is completed to indicate the date, time and place of the appointment, whether the appointment is kept, and whether further appointments or special services, such as transportation, are needed.



TYPE OF APPOINTMENT: Opthalmologist	NAME OF DOCTOR or CLINIC: Gerard Wilson MD
NAME OF CHILD: John Clark	ADDRESS OF DOCTOR or CLINIC: 18 Center St (381-6222)

* SCHEDULE		ACTION REQUIRED FOR COMPLETING TREATMENT (Transportation, baby sitter, special services)	NOTES AND RECOMMENDATIONS
DATE	TIME		
Aug 1	2^{00} pm	—	Missed Appt
Aug 8	3^{00} pm	Needs Transportation	Return in 2 wks
Aug 23	1^{30}	Needs Transportation	Glasses fitted - Ret. 1 yr.

3 The appointment record cards are filed by date, and are reviewed daily or weekly to indicate which children require medical or dental care.

4 At any time, the blank spaces on the Control Sheet show which children still require each type of medical or dental service. The card file shows where and when these services are scheduled.

5 A count of each column on the control sheet will provide information for periodic and final reports of what has been accomplished in the health services program.

DETAILED INSTRUCTIONS AND STEP-BY-STEP PROCEDURE

A. Who should operate the Bookkeeping System

The health services director should understand the use of the system and should help set it up. Once this is set up, most of the "bookkeeping" can be done by clerical personnel or health aides who understand the purpose of the system. Using the system should require little time, so it could be used by a nurse, doctor or administrator even if no clerical help is available.

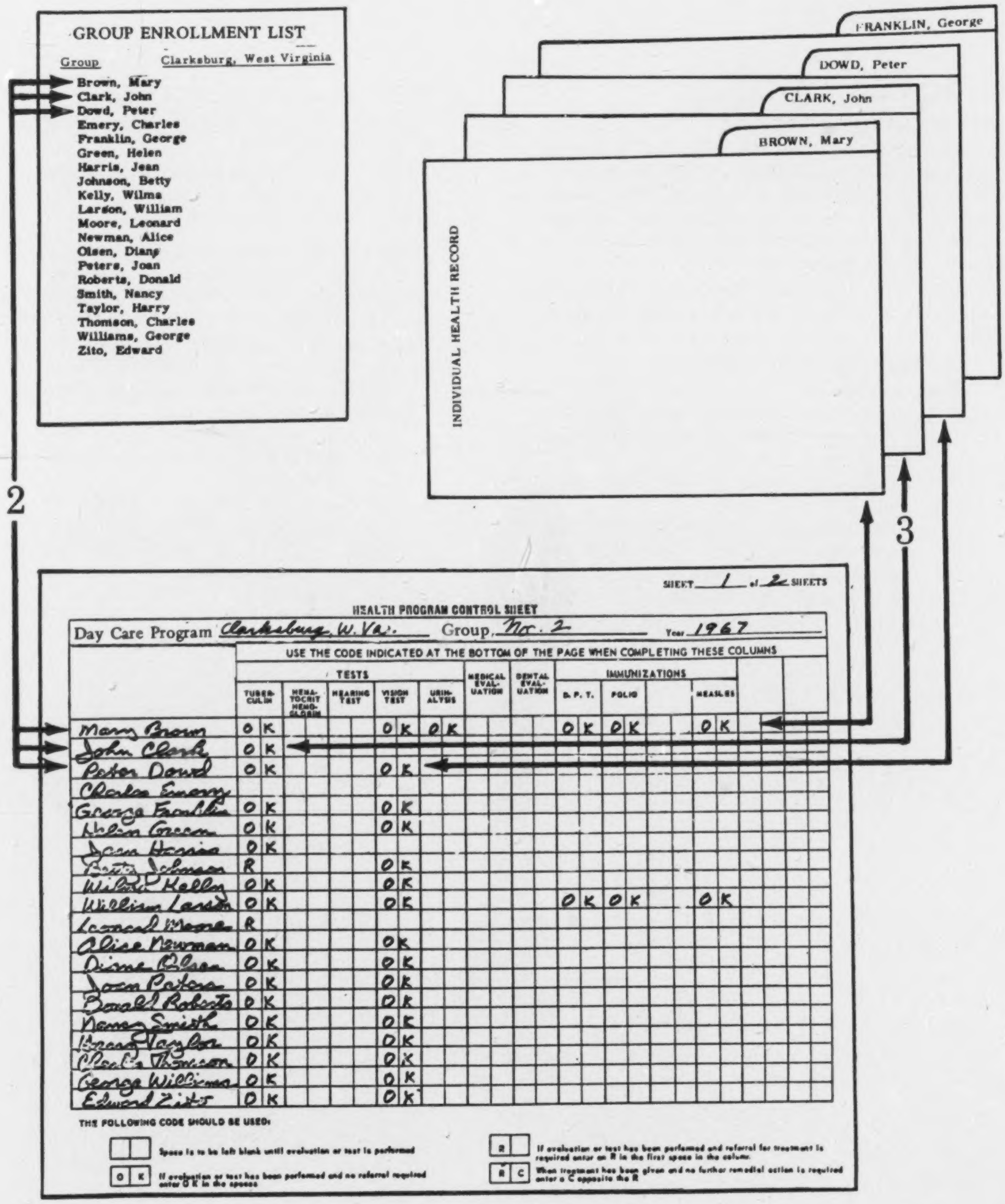
B. Using the Health Program Control Sheet

1. Assemble the following materials:
   - a. The enrollment list for each group or Center.
   - b. Individual health records for each child.
   - c. Health Program Control Sheets, one for each group or for each 20 children in the program. (Six sheets are bound into this manual, additional sheets may be reproduced locally).
2. Enter the names of the children from the enrollment list onto the Health Program Control Sheet.
3. Review any existing health records and transfer pertinent information to the Health Program Control Sheet.

   Many children may already have completed tests, examinations, or immunizations which satisfy the requirements of the program.

   These should be recorded as follows:
   - a. For tests and evaluations mark: [O|K] if the test has been completed and found normal, [R|] if test was performed and result was abnormal and requires further testing or follow-up.
   - b. Immunizations: mark [O|K] if child requires no further immunizations, [R|] if child requires further immunization.

STARTING THE CONTROL SHEET



GROUP ENROLLMENT LIST

Group Clarksburg, West Virginia

Brown, Mary
Clark, John
Dowd, Peter
Emery, Charles
Franklin, George
Green, Helen
Harris, Jean
Johnson, Betty
Kelly, Wilma
Larson, William
Moore, Leonard
Newman, Alice
Olsen, Diane
Peters, Joan
Roberts, Donald
Smith, Nancy
Taylor, Harry
Thomson, Charles
Williams, George
Zito, Edward

SHEET 1 of 2 SHEETS

HEALTH PROGRAM CONTROL SHEET

Day Care Program Clarksburg, W. Va. Group No. 2 Year 1967

USE THE CODE INDICATED AT THE BOTTOM OF THE PAGE WHEN COMPLETING THESE COLUMNS

	TESTS					MEDICAL EVALUATION	DENTAL EVALUATION	IMMUNIZATIONS					
	TUBERCULIN	HEMATOCRIT HEMOGLOBIN	HEARING TEST	VISION TEST	URINALYSIS			D. P. T.	POLIO		MEASLES		
Mary Brown	O K			O K	O K			O K	O K		O K		
John Clark	O K												
Peter Dowd	O K			O K									
Charles Emery													
George Franklin	O K			O K									
Helen Green	O K			O K									
Joan Harris	O K												
Betty Johnson	R			O K									
Wilma Kelly	O K			O K									
William Larson	O K			O K				O K	O K		O K		
Leonard Moore	R												
Alice Newman	O K			O K									
Diane Olsen	O K			O K									
Joan Peters	O K			O K									
Donald Roberts	O K			O K									
Nancy Smith	O K			O K									
Harry Taylor	O K			O K									
Charles Thomson	O K			O K									
George Williams	O K			O K									
Edward Zito	O K			O K									

THE FOLLOWING CODE SHOULD BE USED:

☐☐	Space is to be left blank until evaluation or test is performed
O K	If evaluation or test has been performed and no referral required enter O K in the spaces
R ☐	If evaluation or test has been performed and referral for treatment is required enter an R in the first space in the column
R C	When treatment has been given and no further remedial action is required enter a C opposite the R

4. Schedule the necessary tests, examinations and immunizations.
   Whenever possible, all screening tests should be completed and reports available to the physician at the time he examines the child. The Health Program Control Sheet should make it easy to schedule medical evaluations first for those children whose screening tests are complete.
5. As the result from tests or examinations are received, record them on the Health Program Control Sheet using the following codes:
   - $\boxed{\text{O}|\text{K}}$ —for a test or evaluation revealing no abnormality.
   - $\boxed{\text{R}|\ \ }$ —for a test or examination which indicates that further evaluation or testing is necessary.
   - $\boxed{\text{R}|\text{C}}$ —for a test or examination which showed further evaluation or treatment to be necessary and for which all necessary evaluation and treatment has been completed. Add the "C" only when all necessary treatment has been completed.

(When a child has a chronic health problem, such as asthma or mental retardation, his care can be considered "completed" when the problem has been fully evaluated and he is under the care of a physician, clinic, or school that has accepted responsibility for his future care.)

In recording immunization, enter:

- $\boxed{\text{O}|\text{K}}$ —if child was "completely" immunized before the beginning of the program.
- $\boxed{\text{R}|\ \ }$ —if he requires further immunization.
- $\boxed{\text{R}|\text{C}}$ —if child required further immunization and this was "completed" during the program. Add the "C" only when the child is "fully" immunized.

(Standards for full immunization are given in the booklet "Project Head Start Health Services" Rainbow Series, Vol. #2.)

CODING EXAMPLES:

<table>
<tr><th></th><th colspan="5">TESTS</th><th rowspan="2">MEDICAL EVAL-UATION</th><th rowspan="2">DENTAL EVAL-UATION</th><th rowspan="2">D. P. T.</th></tr>
<tr><th></th><th>TUBER-CULIN</th><th>HEMA-TOCRIT HEMO-GLOBIN</th><th>HEARING TEST</th><th>VISION TEST</th><th>URIN-ALYSIS</th></tr>
<tr><td>1.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">All screening tests have been performed and found to be normal. Child is ready for medical evaluation.</td></tr>
<tr><td>2.</td><td>R</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Tuberculin test was performed and found to be positive. Child needs further evaluation.</td></tr>
<tr><td>3.</td><td>O K</td><td>O K</td><td></td><td>O K</td><td>O K</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Child was absent on day of hearing test. Reschedule test.</td></tr>
<tr><td>4.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>R C</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Abnormal urine test has been rechecked twice and found to be normal.</td></tr>
<tr><td>5.</td><td>O K</td><td>O K</td><td>O K</td><td>R C</td><td>O K</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Abnormal vision screening test. Child has seen eye doctor and is wearing glasses.</td></tr>
<tr><td>6.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>R C</td><td></td></tr>
<tr><td colspan="9">Child was found to need to have two teeth filled. This was completed immediately and no further care is needed/</td></tr>
<tr><td>7.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td>O K</td></tr>
<tr><td colspan="9">Child has had three DPT shots, the most recent a few months ago. He is "completely" immunized for DPT, requires no further shots.</td></tr>
<tr><td>8.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td>R C</td></tr>
<tr><td colspan="9">Child had two doses of DPT in infancy. He was given third dose at time of Head Start interview and is now "completely" immunized.</td></tr>
<tr><td>9.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td>R</td></tr>
<tr><td colspan="9">Child never previously immunized received one dose of DPT at time of interview, needs another before end of program.</td></tr>
<tr><td>10.</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td>O K</td><td></td><td></td><td></td></tr>
<tr><td colspan="9">Immunization status is unknown; mother should be interviewed and any past health records examined.</td></tr>
</table>

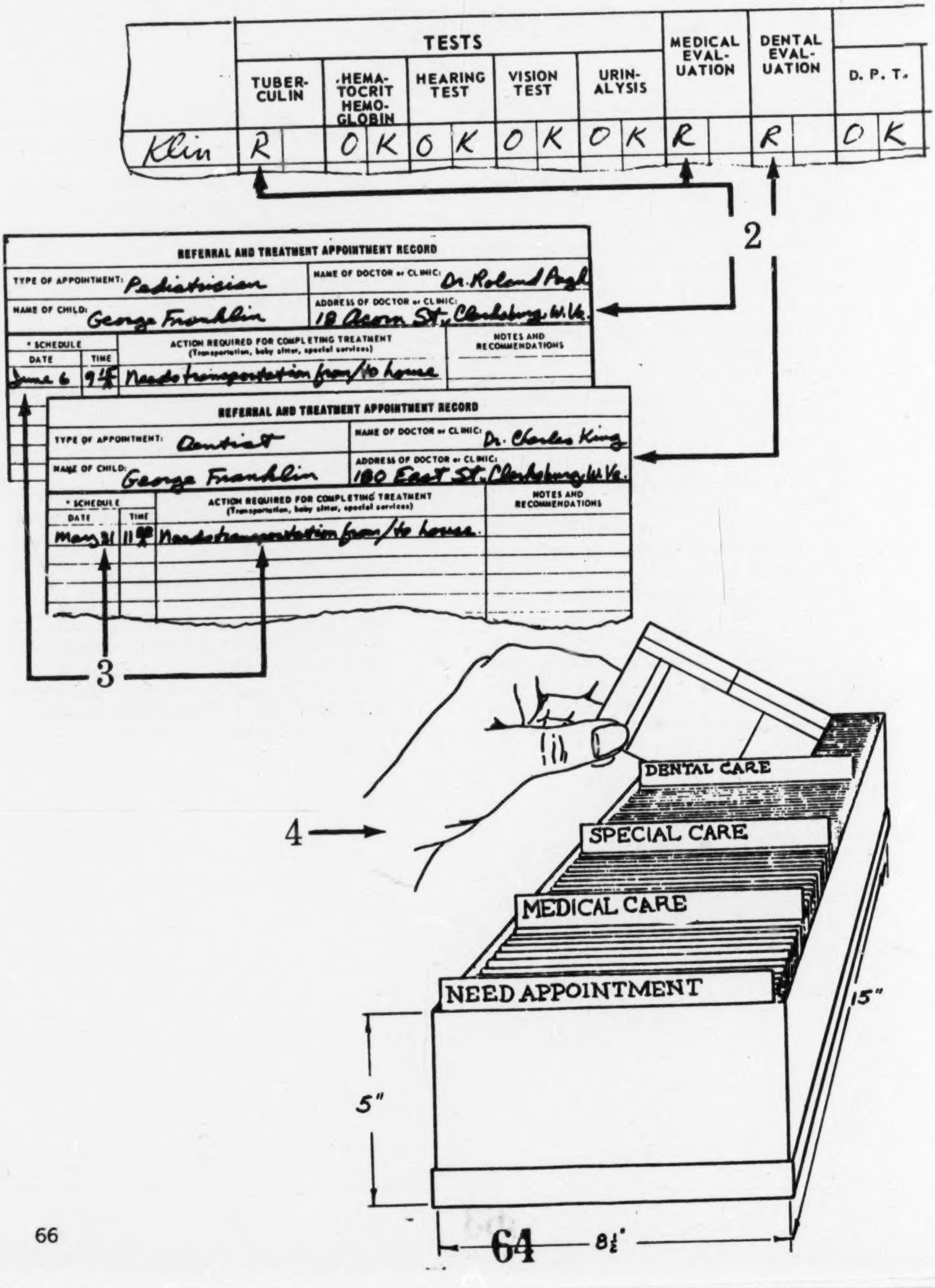
USING THE REFERRAL AND TREATMENT APPOINTMENT RECORD FILE

1. Reproduce a number of copies of the Referral and Treatment Appointment Record Cards. Approximately three such record cards will be needed for every two children in the program.
2. Whenever a test or examination report indicates that a child needs an appointment for further evaluation or care, fill out a Referral and Treatment Appointment Record Card. (A nurse, aide, or clerk can do this at the time of the examination or test). Fill out a separate card for each type of appointment needed, that is, for each doctor, dentist, or clinic that the child will have to visit. For example, a child found to have skin disease, a heart murmur, and dental decay might have one appointment record card for the pediatrician who will evaluate the heart murmur and treat the skin disease, and another appointment record card for the dentist.
3. As soon as an appointment is made, enter the date, time, and place on the Referral and Treatment Appointment Record Card. (This can often be done at the time of the initial medical or dental evaluation). Also enter on the card any special services, such as transportation or baby-sitting that will be necessary to help the parent keep the appointment.
4. File the Referral and Treatment Record Cards by type of apopintment. For most smaller programs three categories will be sufficient:

   General Medical Care—Provided by pediatricians, general practitioners and clinics.
   Dental Care—
   Special Care—Eye care, T.B. Clinics, mental health, mental retardation, etc.

   Some larger programs may wish to use more categories.
5. Within each category of appointment, file the cards by date of appointment. File cards for children who require appointments, but for whom no specific appointment has been set, in the front of the appropriate section to assure that they are reviewed frequently and that necessary appointments arranged. (If desired, the same kind of file card system can be used to schedule the initial examinations or to maintain the schedule for immunizations or screening tests).

USING THE APPOINTMENT RECORD FILE



	TESTS										MEDICAL EVALUATION		DENTAL EVALUATION		D. P. T.	
	TUBERCULIN		HEMATOCRIT HEMOGLOBIN		HEARING TEST		VISION TEST		URINALYSIS							
Klin	R		O	K	O	K	O	K	O	K	R		R		O	K

REFERRAL AND TREATMENT APPOINTMENT RECORD

TYPE OF APPOINTMENT: Pediatrician

NAME OF DOCTOR or CLINIC: Dr. Roland Angl

NAME OF CHILD: George Franklin

ADDRESS OF DOCTOR or CLINIC: 18 Acorn St., Clarksburg, W. Va.

* SCHEDULE DATE	TIME	ACTION REQUIRED FOR COMPLETING TREATMENT (Transportation, baby sitter, special services)	NOTES AND RECOMMENDATIONS
June 6	9 45	Needs transportation from/to house	

REFERRAL AND TREATMENT APPOINTMENT RECORD

TYPE OF APPOINTMENT: Dentist

NAME OF DOCTOR or CLINIC: Dr. Charles King

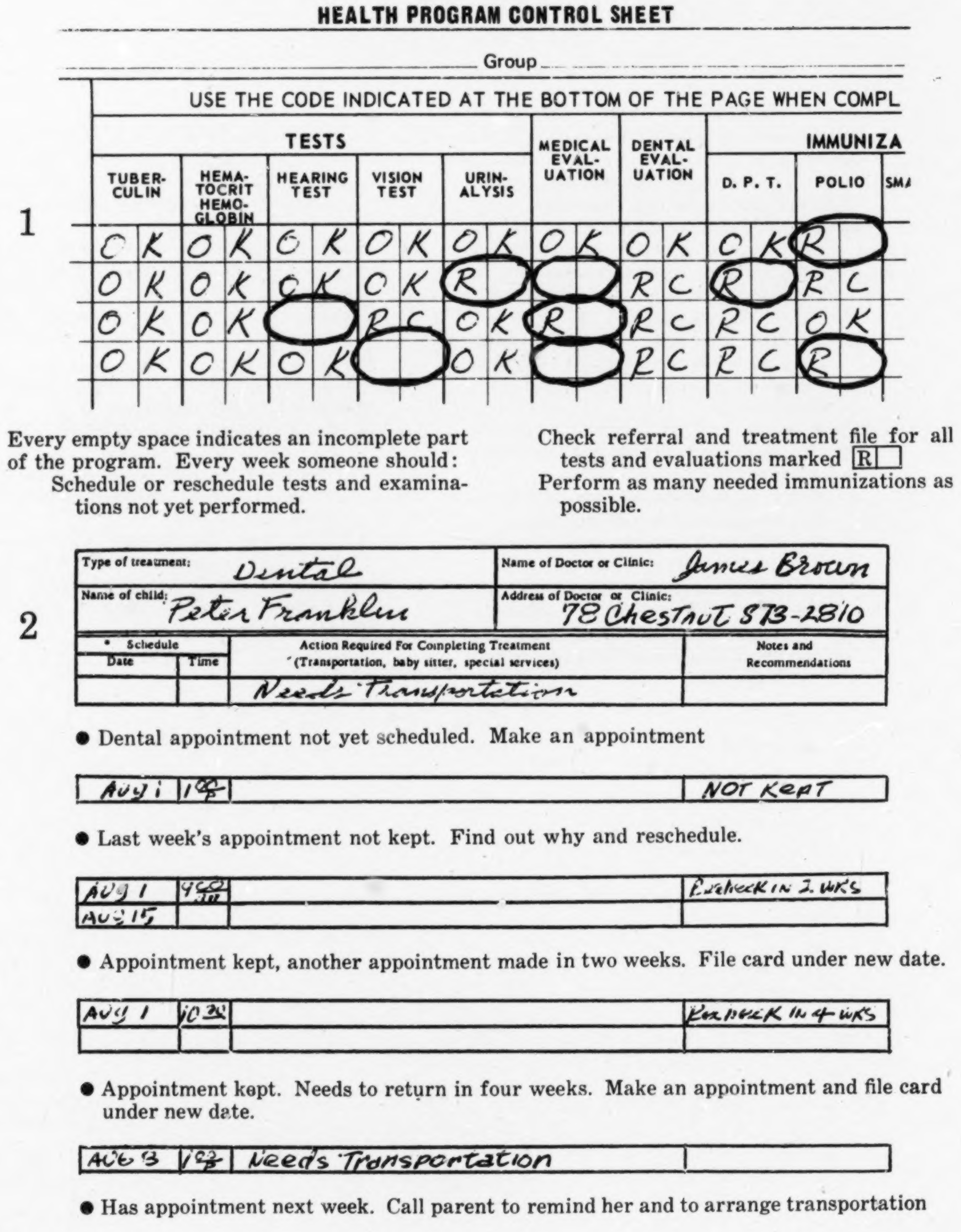
NAME OF CHILD: George Franklin

ADDRESS OF DOCTOR or CLINIC: 180 East St., Clarksburg, W. Va.

* SCHEDULE DATE	TIME	ACTION REQUIRED FOR COMPLETING TREATMENT (Transportation, baby sitter, special services)	NOTES AND RECOMMENDATIONS
May 31	11 00	Needs transportation from/to house.	

WEEKLY HEALTH PROGRAM REVIEW

1. Every week, or more frequently, review the Health Program Control Sheet. Every unfilled box indicates an incomplete part of the health program.
    a. Schedule tests and examinations for children who have not had them.
    b. Be sure that children whose immunizations are not complete are scheduled to receive them.
    c. Be sure that each child for whom the Control Sheet shows a referral, actually has an appropriate appointment card.
2. Every week, or more frequently, review the Referral and Treatment Appointment Record file.
    a. Make appointments for children whose care is not yet scheduled.
    b. Review appointments scheduled for the previous week.
        1). Find out if they were kept.
        2). Find out if any further appointments are necessary, schedule them and refile the card under new date.
    c. Review the next week's appointment and be sure that parents know of appointment and that any necessary transportation, babysitting, etc., has been arranged.
3. When all scheduled appointments on a card have been completed (indicating that all necessary care has been completed), remove the card from the file and place it with the child's individual health record.
4. The health program may be considered completed, to date, when:
    a. Each space on the Health Program Control Sheet is filled in.
    b. There are no cards remaining in the Referral and Treatment Appointment Record file.
5. At any time, the amount of uncompleted work can be determined by counting the unfilled spaces in each column of the Health Program Control Sheets.



HEALTH PROGRAM CONTROL SHEET

Group

1

USE THE CODE INDICATED AT THE BOTTOM OF THE PAGE WHEN COMPL																		
TESTS										MEDICAL EVAL-UATION		DENTAL EVAL-UATION		IMMUNIZA				
TUBER-CULIN		HEMA-TOCRIT HEMO-GLOBIN		HEARING TEST		VISION TEST		URIN-ALYSIS						D. P. T.		POLIO		SM
O	K	O	K	O	K	O	K	O	K	O	K	O	K	O	K	R		
O	K	O	K	O	K	O	K	R				R	C	R		R	C	
O	K	O	K			R	C	O	K	R		R	C	R	C	O	K	
O	K	O	K	O	K			O	K			R	C	R	C	R		

Every empty space indicates an incomplete part of the program. Every week someone should:
Schedule or reschedule tests and examinations not yet performed.

Check referral and treatment file for all tests and evaluations marked R☐
Perform as many needed immunizations as possible.

2

Type of treatment: Dental	Name of Doctor or Clinic: James Brown
Name of child: Peter Franklin	Address of Doctor or Clinic: 78 Chestnut 873-2810

• Schedule		Action Required For Completing Treatment (Transportation, baby sitter, special services)	Notes and Recommendations
Date	Time		
		Needs Transportation	

- Dental appointment not yet scheduled. Make an appointment

Aug 1	1 00		NOT KEPT

- Last week's appointment not kept. Find out why and reschedule.

AUG 1	4 00		Recheck IN 2 WKS
AUG 15			

- Appointment kept, another appointment made in two weeks. File card under new date.

AUG 1	10 30		Recheck IN 4 WKS

- Appointment kept. Needs to return in four weeks. Make an appointment and file card under new date.

AUG 8	1 00	Needs Transportation	

- Has appointment next week. Call parent to remind her and to arrange transportation

ENSURING FUTURE HEALTH CARE

A Day Care Program can provide and pay for health services for an individual child for only a limited period of time. He, and the other members of his family, will need health care for the rest of their lives. The program has not fulfilled its potential unless its health program has been used to introduce each child to a doctor and a dentist (or clinic) to which the child and his family can turn for illness or other health needs in the future. Frequently, Head Start can also introduce the family to sources of funds with which it can pay for future medical care. To accomplish this:

1. The examinations should be performed by doctors who are willing to treat the child's present problems, and any problems that arise in the future. This can be a doctor who is already the "family doctor" or "family pediatrician", or a new doctor or a clinic if there has been inadequate previous care.
2. Dental examinations and treatment should be planned with the same considerations for continuity.
3. All possible sources of funds, such as medical assistance funds, under welfare, Medicaid, or Crippled Children's programs, should be explored for each Day Care family and the family should be helped to establish its eligibility.

Use the "Future Care" column to record what has been accomplished.

1. Check ✓ "Medical" column if the doctor or clinic who examined or treated the child will be available to care for future illnesses or problems.
2. Check ✓ "Dental" column if the dentist or clinic who examined or treated the child will be available to care for future dental problems.
3. Check ✓ "Funds" if child has established eligibility for Title XIX, AFAC, etc., is covered by insurance or is enrolled in a program (National Health Center, Children and Youth) that provide health and dental care at minimum cost.

USING THE "FUTURE CARE" COLUMN

	FUTURE CARE		
	MEDICAL	DENTAL	FUNDS
● Family physician examined child. Family has no dentist and no funds for future care.	✓		
● Family has obtained a Medicaid card but does not have a doctor or dentist.			✓
● Child is enrolled at hospital clinic which gives both emergency and well-child care. Welfare Department provides payment.	✓		✓
● Child examined by physician who is willing to be responsible for his care in the future. Family has Medicaid.	✓		✓
● Day Care dentist is willing to provide future dental care at Welfare Department fees. Family receives welfare assistance.		✓	✓
● Child is enrolled in OEO sponsored Neighborhood Health Center.	✓	✓	✓

REPORTING HEALTH PROGRAM PROGRESS

Interim and final reports of the accomplishments of the Health Program can be made by counting the number of boxes on the Health Program Control Sheet which have been coded in each way.

1. For examinations and tests
   - the number $\boxed{\text{O}\,|\,\text{K}}$ codes indicates the number examined or tested and found to need no further care.
   - The number of $\boxed{\text{R}\,|\;\;\;}$ and $\boxed{\text{R}\,|\,\text{C}}$ codes indicates the number of children discovered to have problems requiring treatment or further evaluation. (To list the specific problems discovered in medical and dental examinations, it will be necessary to check the individual health records of children with problems)
   - The number of $\boxed{\text{R}\,|\,\text{C}}$ codes indicates the number of children health problems which have had all necessary evaluation and treatment.
   - The number of $\boxed{\;\;\;|\;\;\;}$ codes indicates the number of children not tested or examined.
2. For immunizations.
   - the number of $\boxed{\text{O}\,|\,\text{K}}$ codes indicates the number of children who were fully immunized at the beginning of program.
   - the number of $\boxed{\text{R}\,|\,\text{C}}$ codes indicates the number who completed their immunizations during the program.
   - the number of $\boxed{\text{R}\,|\;\;\;}$ codes indicates the number who still require immunization.
   - The number of $\boxed{\;\;\;|\;\;\;}$ codes indicates the number whose immunization status has not been checked.

Such a report might be presented in a form such as that on page 71.

STATISTICAL REPORT OF HEALTH SERVICES PROGRAM

Date ______ Number of Children in Program ______

Screening Tests

	Tuberculin	Blood for Anemia	Hearing	Vision	Urine
Number of children tested					
Number with abnormal test					
Number completely evaluated and treated					
Number still requiring follow-up					

Immunizations

	DPT	Polio		Measles
Number of children with "complete" immunization before beginning of program				
Number "completed" up to present time during current Head Start program				
Number still "incomplete"				
Number with unknown status				

Dental Evaluation and Treatment

Number of children evaluated ______
Number with problems (caries or other disease) requiring treatment (other than cleaning and fluoride) ______
Number who have completed all necessary treatment ______
Number still requiring treatment or follow-up ______

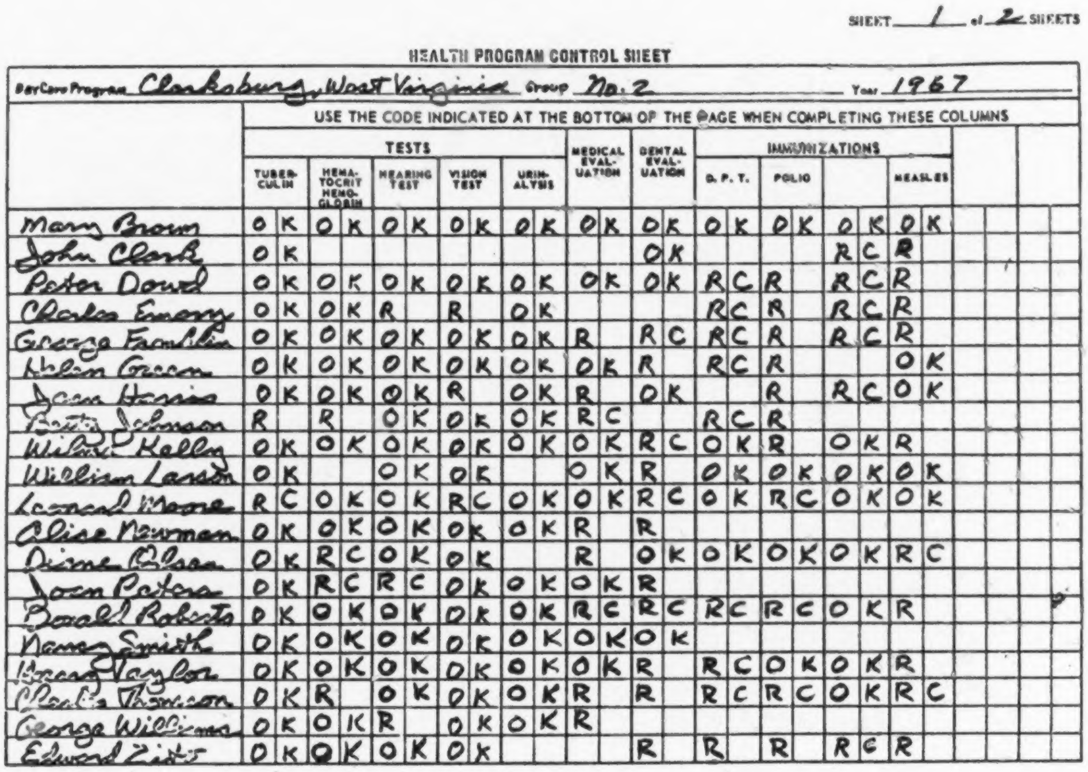
Medical Evaluation and Treatment

Number of children evaluated ______
Number with medical problem requiring treatment or further evaluation ______
Number who have completed all necessary evaluation and treatment ______
Number still requiring treatment or follow-up ______

Specific Medical Problems (List each type found)

Type of Problem	Number of children discovered	Number completely evaluated and treated	Number still requiring follow-up
1.			
2.			
3.			
4.			
5.			
6.			
7.			

USING THE HEALTH PROGRAM CONTROL SHEET FOR STATISTICAL REPORTS



SHEET 1 of 2 SHEETS

HEALTH PROGRAM CONTROL SHEET

DayCare Program Clarksburg, West Virginia Group No. 2 Year 1967

USE THE CODE INDICATED AT THE BOTTOM OF THE PAGE WHEN COMPLETING THESE COLUMNS

	TESTS					MEDICAL EVAL-UATION	DENTAL EVAL-UATION	IMMUNIZATIONS					
	TUBER-CULIN	HEMA-TOCRIT HEMO-GLOBIN	HEARING TEST	VISION TEST	URIN-ALYSIS			D. P. T.	POLIO		MEASLES		
Mary Brown	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK	OK		
John Clark	OK						OK			RC	R		
Peter Dowd	OK	OK	OK	OK	OK	OK	OK	RC	R	RC	R		
Charles Emory	OK	OK	R	R	OK			RC	R	RC	R		
George Franklin	OK	OK	OK	OK	OK	R	RC	RC	R	RC	R		
Helen Green	OK	OK	OK	OK	OK	OK	R	RC	R		OK		
Joan Harris	OK	OK	OK	R	OK	R	OK		R	RC	OK		
Betty Johnson	R	R	OK	OK	OK	RC		RC	R				
Wilbur Kelly	OK	OK	OK	OK	OK	OK	RC	OK	R	OK	R		
William Larson	OK		OK	OK		OK	R	OK	OK	OK	OK		
Leonard Moore	RC	OK	OK	RC	OK	OK	RC	OK	RC	OK	OK		
Alice Newman	OK	OK	OK	OK	OK	R	R						
Diane Olson	OK	RC	OK	OK		R	OK	OK	OK	OK	RC		
Joan Peters	OK	RC	RC	OK	OK	OK	R						
Donald Roberts	OK	OK	OK	OK	OK	RC	RC	RC	RC	OK	R		
Nancy Smith	OK	OK	OK	OK	OK	OK	OK						
Bruce Taylor	OK	OK	OK	OK	OK	OK	R	RC	OK	OK	R		
Charlie Thomson	OK	R	OK	OK	OK	R	R	RC	RC	OK	RC		
George Williams	OK	OK	R	OK	OK	R							
Edward Zitt	OK	OK	OK	OK			R	R	R	RC	R		

Screening tests	Tuberculin	
Number of children tested	20	(all 20 boxes in the column contain some mark)
Number with abnormal test	2	(Johnson and Moore are marked [R][ ] or [R][C])
Number completely evaluated and treated	1	(Only Moore is marked [R][C])
Number still requiring follow-up	1	(Johnson is marked [R][ ])

Immunizations	DPT	
Number of children with "complete" immunization before beginning of program	5	(5 boxes are marked [O][K])
Number "completed" up to present time	8	(8 boxes are marked [R][C])
Number still "incomplete"	2	(2 boxes are marked [R][ ])
Number with unknown status	5	(5 boxes are blank [ ][ ])

TYPE OF APPOINTMENT

NAME OF CHILD *(Last name, first name, middle initial)*

NAME OF DOCTOR *(Or clinic)*

ADDRESS OF DOCTOR *(Or clinic)*

*SCHEDULE		ACTION REQUIRED FOR COMPLETING TREATMENT *(Transportation, baby sitter, special services)*	NOTES AND RECOMMENDATIONS
DATE	TIME		

* File card by the next schedule appointment date and by type of appointment.

1. Medical Care
2. Dental Care
3. Special Care

REFERRAL AND TREATMENT APPOINTMENT RECORD

HEALTH PROGRAM CONTROL SHEET

Sheet of Sheets

NAME OF PROGRAM

GROUP

YEAR

(Use the code indicated at the bottom of the page when completing these columns.)

NAME OF CHILD	TESTS					MEDICAL EVAL-UATION	DENTAL EVAL-UATION	IMMUNIZATIONS				FUTURE CARE					
	TUBER-CULIN	HEMA-TOCRIT HEMO-GLOBIN	HEARING TEST	VISION TEST	URIN-ALYSIS			D. P. T.	POLIO		MEASLES	MEDICAL	DENTAL	FUNDS			

The following code should be used:

☐☐	Space is to be left blank until evaluation or test is performed
O K	If evaluation or test has been performed and no referral required enter O K in the spaces.
R ☐	If evaluation or test has been performed and referral for treatment is required enter an R in the first space in the column.
R C	When treatment has been given and no further remedial action is required enter a C opposite the R.

APPENDIX C

Evaluation of Cardiac Murmurs in Children

Introduction

In any type of screening program large numbers of children will be found with cardiac murmurs. In the pediatric population, the preschool group appears to have the highest incidence of easily audible murmurs. The actual incidence is difficult to determine, but probably 50% or more of children exhibit a cardiac murmur at some time.

Since the great majority of childhood murmurs are innocent, it is important that they be recognized as such. Not only does prompt recognition of the true nature of innocent murmurs reduce the number of time consuming and expensive referrals to cardiac diagnostic centers, but, more important, unnecessary anxiety on the part of the child and his parents is prevented.

Fortunately, murmurs of all types and timing can be categorized. Innocent murmurs can be classified, and in most cases positive features of individual murmurs permit their recognition. It is the purpose of this section to present a clinical classification of murmurs in general, to discuss the specific types and differential diagnosis of innocent murmurs, and to present some guidelines concerning which patients with murmurs should receive further cardiologic evaluation.

A Classification System for Cardiac Murmurs

In classifying cardiac murmurs, it is first helpful to separate them with respect to their timing in the cardiac cycle. This furnishes the broad groups of systolic, diastolic, and continuous murmurs which will be considered individually.

A. Systolic Murmurs

Systolic murmurs may be divided into **ejection** and **regurgitant** types. **Ejection** murmurs usually arise at or near the pulmonic or aortic valves in association with forward flow of blood from a ventricle. They may arise in the normal circulation; they may be associated with increased flow through a normal sized valve; or they may reflect increased, normal or even reduced flow through a narrowed or stenotic valve. Ejection murmurs are typically confined to early and mid systole, and they cease before the second heart sound.

Regurgitant systolic murmurs are always organic and arise in association with abnormal, usually backward, flow of blood from a ventricle. Mitral regurgitation is an example of such a situation. The left-to right ventricular shunting of blood in uncomplicated interventricular septal defects also produces a regurgitant murmur. Regurgitant murmurs are typically holosystolic, beginning with the first heart sound and continuing to the second sound.

One further type of systolic murmur should be mentioned. This is the **extracardiac murmur.** Murmurs so classified are produced outside the heart and are generated as the heart moves within the pericardium or comes in contact with a portion of lung or the thoracic cage. Although these murmurs are usually confined to systole, their precise timing is variable and unpredictable. The pericardial friction rub should be recognized as a special type of extracardiac murmur. The friction rub typically has diastolic as well as systolic components.

B. Diastolic Murmurs

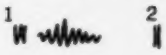
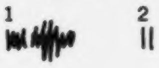
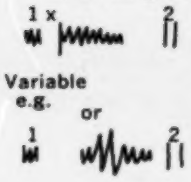
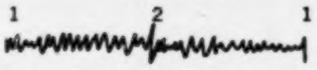
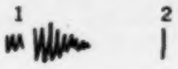
Diastolic murmurs may be divided into those arising in association with the flow of blood into the ventricle from the atria and those arising as a result of pulmonic or aortic valve insufficiency. The first type may be termed **ventricular inflow murmurs.** They often arise at an organically narrowed mitral or tricuspid valve. Similar diastolic murmurs may be generated as a result of increased flow across a normal or nearly normal sized orifice. The latter types of diastolic murmurs are often referred to as those of "relative" rather than "organic" stenosis. Murmurs arising as a result of aortic or pulmonary valve insufficiency are termed **regurgitant** diastolic murmurs. Characteristically, they are holodiastolic, beginning with the second heart sound and continuing in a decrescendo fashion to the next first sound. This contrasts with ventricular inflow murmurs which are not decrescendo but often exhibit a mid-diastolic and sometimes a pre-systolic accentuation. Diastolic murmurs generally indicate the presence of organic heart disease, and their recognition should demand further evaluation of the patient.

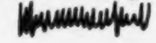
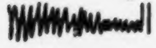
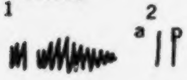
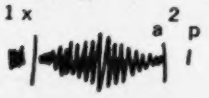
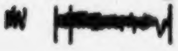
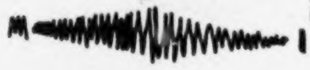
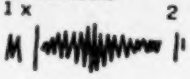
One common normal physical finding sometimes mistaken for a diastolic murmur is a physiologic third heart sound. A third sound occurs in early-mid diastole. It is low pitched, short, and unaccompanied by signs of heart disease. It arises in association with the rapid ventricular filling phase in early diastole. It is generally best heard at the cardiac apex and often varies in intensity with respiration. It is a short sound rather than a murmur. This attribute, plus the absence of other physical findings of organic heart disease, establishes the identity of the normal third sound.

C. Continuous Murmurs

Continuous murmurs are defined as murmurs heard in both systole and diastole. The same hemodynamic mechanixm accounts for both the systolic and diastolic components of the murmur. An example of a continuous murmur is that of patent ductus arteriosus. In this condition, the murmur is produced by continuous (i.e. systolic and diastolic) flow through the ductus. One of the innocent murmurs, the venous hum, is a continuous murmur arising in the great veins of the neck and upper thorax.

Clinical Findings in Innocent Cardiac Murmurs in Children

Designation	Site of Maximal Intensity	Characteristics
1. Vibratory Murmur	Lower left sternal border and/or midprecordium 	Early-mid systolic murmur of low to medium pitch; "groaning" quality
2. Pulmonic Ejection Murmur	Pulmonic area; may transmit along left sternal border and toward apex 	Early-mid systolic, often blowing, low to medium pitched murmur
3. Cardio-respiratory Murmur	Anywhere; usually a heart-lung margin 	Variable, often medium to high pitched murmurs which are circumscribed in timing. Marked variation with position and respiration is the rule. These murmurs are often introduced or terminated by click. May be associated with chest deformity.
4. Venous Hum	Right neck; upper right sternal border 	Continuous, low-pitched hum with early diastolic accentuation
5. Carotid Bruit	Right neck and right supraclavicular fossa 	Low to medium pitched early-mid systolic murmur of brief duration

Organic Lesions to be Differentiated	**Distinguishing Features of Organic Lesions**
a. Ventricular septal defect (small) 	a. VSD murmur is typically holosystolic, usually louder and higher pitched, frequently associated with thrill and more widely transmitted.
b. Mitral regurgitation (typical) 	b. MR murmur, though not necessarily louder is holosystolic. It is higher pitched and usually transmitted to axilla and posterior lung bases.
a. Atrial septal defect 	a. ASD systolic murmur is usually louder and longer. Wide and nearly constant second sound splitting is usual.
b. Pulmonic stenosis (mild) 	b. P.S. murmur is louder, longer and usually associated with thrill. Early systolic pulmonic ejection sound is common. Second sound is widely split on expiration.
Mitral Regurgitation (atypical) 	Late Systolic murmurs, often introduced by a click, may represent mild atypical mitral regurgitation. This possibility must be considered, particularly if murmur is maximal at the apex.
Patent ductus arteriosus 	PDA murmur is maximal over pulmonic area and does not disappear in supine position. PDA murmur has late systolic accentuation.
Aortic Stenosis 	Although audible in neck, murmur of aortic stenosis is usually maximal over second right intercostal space and less frequently along left sternal border; suprasternal notch thrill is present in aortic stenosis.

SPECIFIC INNOCENT MURMURS (SEE TABLE)

A. The Vibratory Murmur

This murmur is very common in preschool children. It has been known by various designations including Still's murmur, "twanging string murmur", "fiddle string murmur", and "vibratory murmur". The latter term is now generally preferred since it comes closest to describing the sound pattern of the murmur which has a dominant and relatively pure frequency in the range of 100-150 cycles per second. It is a musical murmur, but its low pitch results in the musicality being less obvious to most observers than is the case with high pitched musical murmurs. This murmur may represent an aortic systolic ejection murmur, arising in association with the rapid ejection of blood into the aorta in early and mid systole. This murmur is typically best heard along the mid and lower left sternal border regions. Occasionally, it is loudest over the mid precordium; rarely it is most intense at the apex.

This murmur, when best heard parasternally, is sometimes confused with that of an interventricular septal defect. The latter murmur is higher pitched, noisy, and usually louder and associated with a thrill. Moreover, the typical ventricular septal defect murmur is holosystolic, beginning with the first heart sound and ending with the second, whereas the vibratory murmur is confined to the early part of systole.

When the vibratory murmur is best heard over the mid-precordial or apical area, it may be confused with the murmur of mitral regurgitation. The latter is higher pitched, has a blowing quality, is often noisy rather than musical, and is holosystolic. It classically transmits well to the axilla, a feature not shared with the vibratory murmur.

B. The Pulmonic Ejection Murmur

This is another early-mid systolic murmur associated with the ejection of blood into a great vessel. In this case, the murmur arises in the pulmonary artery, and it is most intense over the second and third left intercostal spaces parasternally. This murmur is also relatively low pitched. It tends to have a "blowing" quality instead of the "groaning", musical character of the vibratory murmur. It is often loudest when the patient is recumbent, and it increases with exercise (the vibratory murmur is inconsistent in these respects). The murmur ceases in mid-systole and other aspects of the examination are normal. It is heard less frequently in preschool children than is the vibratory murmur. However, it is quite common in adolescents.

An exaggerated pulmonary ejection murmur may be heard in conditions associated with excessive pulmonary blood flow. In atrial septal defect, in particular, the systolic murmur is solely of this type. Generally, the systolic murmur is louder in atrial defect, but this is not a really reliable differential feature. Careful attention should be paid to the second heart sound since the innocent pulmonic ejection murmur is associated with a normal inspiratory increase in second sound splitting, whereas in atrial septal defects the second sound is audibly split at all phases of respiration, and little or no respiratory variation can be appreciated. The normal respiratory variation in splitting of the second heart sound is usually easier to hear when the patient is upright.

It is important for the examiner to realize that the pulmonic ejection murmur (and the venous hum and carotid bruit, as well) become louder with exercise, anxiety, and during febrile illnesses. They are also exaggerated in anemic children, and the possibility of anemia should be borne in mind in any child with unusually prominent innocent murmurs.

C. Cardiorespiratory Murmurs

These murmurs are rather rare and often very bizarre in their character and timing. They are believed to have an extracardiac origin, and they are particularly likely to be heard in individuals with some type of chest deformity. Frequently, these murmurs vary remarkably in intensity and timing with respiration. They may often be associated with single or multiple systolic clicks. When a murmur of this type if most prominent at the cardiac apex, a good possibility exists that it may represent an atypical murmur of mitral regurgitation. (See Table)

D. Venous Hums

Venous hums are very common innocent continuous murmurs arising in the great veins in the upper chest and neck. They are usually best heard over the right neck and right supraclavicular area. However, they are frequently easily audible over the upper right sternal border and sometimes over the upper right sternal border and sometimes over the pulmonic area. They are occasionally musical and typically are loudest during early diastole. They can be made to disappear or diminish markedly by placing the patient in the supine position, having him turn his head, or occluding the veins in the neck above the stethoscope. Venous hums are sometimes confused with the continuous murmur of patent ductus arteriosus. The distinction should not be difficult since the latter murmur is loudest over the pulmonic area, is rarely affected position, is louder, and prosesses a late systolic rather than a disastolic accentuation.

E. The Carotid Bruit

This murmur is a short arterial early-mid systolic ejection murmur best heard in the right neck. It arises in association with the rapid ejection of blood into the arteries of the neck in early systole. It is most common in adolescents and occasionally may be mistaken for a transmitted murmur of aortic stenosis. This can easily be resolved by noting that the carotid bruit is loudest in the neck, and that it is not associated with a precordial murmur of aortic stenosis or a suprasternal notch thrill.

WHICH PATIENTS WITH MURMURS REQUIRE FURTHER CARDIOLOGIC EVALUATION?

This question is difficult to answer, and it is recognized that the experience and confidence of the examining physician will influence his decision about the necessity for consultation. The innocent murmurs described in the preceding section can generally be recognized on the basis of their own positive features. Any murmur not fullfilling these characteristics should be regarded as potentially organic. Specifically, any holosystolic murmur, irrespective of its intensity, reflects the presence of an organic lesion. Any patient with a systolic murmur maximal over the upper right sternal border region should be subject to follow up examinations. Such a murmur, even though it resembles an innocent ejection murmur, may reflect mild aortic stenosis. Any unusually loud murmur (grade III or more of VI grades) should be suspect. Certainly, diastolic murmurs, with the exception of the diastolic component of the venous hum, indicate a cardiac lesion.

If, after weighing the evidence, the physician decides to refer a child for evaluation, he should not unduly alarm the child or the parents. Further, he should not make an absolute diagnosis of an organic lesion if there is any question about the nature of the murmur. Lastly, even if he is certain the murmur indicates organic heart disease, he should stress that many lesions associated with murmurs are mild, do not significantly affect the child's life expectancy and will not be associated with the development of disabilty.

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